

© THIS JUST IN

Canine Silicone Tags

They can track pollutants

A study from North Carolina State University and Duke University enlisted dogs and their owners to measure exposures to various pollutants. “Dogs provide valuable insights as sentinels for exposure-related human disease because they share similar exposures in the home, have shorter life spans, share many clinical/biological features, and have closely related genomes,” say the researchers.

Owners were fitted with silicone wristbands and dogs got silicone collar tags. For five days, 30 owners and dogs sported their silicone items. Monitored chemicals ranged from pesticides to flame retardants. Chemicals caught on the silicone, including DEET and permethrin, showed corresponding exposures in the urine of the test subjects. The tags measured chemicals in the air near a dog’s head, which may not equate to chemicals found in the bloodstream. The bands and tags are inexpensive, but the testing to search for compounds can run to about \$250.

Knowing what chemicals a dog has been exposed to and watching for any health conditions that develop may help veterinarians and researchers in diagnosing (and hopefully preventing) various cancers. ■

Wise, C. F., et al. “Sentinels To Support Human Health Research,” *Environmental Science and Technology*

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Find The Best Dog For You

Breeder or shelter, where you get your dog isn’t as important as being sure he’s the right one for you

A lot of propaganda and strong feelings surround getting a new dog. You’ve probably heard the phrases: Adopt don’t shop. Responsible breeders. Retail rescue. Purpose-bred dogs. Navigating all this can be overwhelming and might leave you feeling anxious.

But, the most important aspect about getting a new puppy or dog isn’t where you get the dog. It’s making sure you find the right dog for you and that you can provide a loving forever home where the dog can thrive.

Buying from a Breeder

With a breeder, you can meet the parents and possibly other family members, which will give you an idea of what your puppy will likely look and act like when she grows up. This allows you to make an educated decision about whether you are ready to handle that pup’s grooming, exercise, and training needs.

The pup has a known health history. The breeder can tell you about the longevity of the puppy’s parents and grandparents, plus any health problems that have shown up in related dogs. Surprises can always happen, but a puppy from healthy parents is less likely to develop health problems.

You know what the start of the puppy’s life looked like, from where she was raised to what she was fed, veterinary care that was provided, and what socialization has been initiated. Some breeders also start teaching their puppies basic life skills, such as crate training, walking on a leash, sit, and down.

The breeder will likely ask you lots of questions about your lifestyle and preferences to help match you with the puppy that will best fit with you.

If you prefer to get an

What You Should Consider:

- ▶ What you want to do with your new dog or puppy
- ▶ Whether a large or a small dog will fit you best
- ▶ Determine if coat length matters to you (think grooming)
- ▶ Evaluate your goals for this dog to help determine the desired energy level

adult dog instead of a puppy, you still get these benefits.

Adopting

When you adopt, you know you are helping a dog in need.

Adoption fees are often less than the price of a puppy from a breeder.

Many dogs are already spayed or neutered, or the shelter may have an arrangement with a local veterinarian for a discount on these procedures.

Depending on the dog’s history, she may be housetrained and know some life skills like walking on a leash or how to sit on command.

Working through behavioral issues and retraining bad habits can be rewarding if you have the time and skills to tackle these projects.

(continues on page 2, bottom)



The most important aspect of choosing a dog is finding the dog that fits best with your family.

Blue-Green Algae Poisoning Is a Canine Threat

Look before they leap into ponds and lakes this summer

With warm summer days, many dogs look forward to leaping into a nearby pond or swimming in a lake. Before you let them leap, take some precautions regarding harmful algal and bacterial blooms.

Harmful blooms associated with deadly canine effects usually involve cyanobacteria or blue-green algae. Don't be fooled by the name. While green or blue-green masses are common, blooms can also appear red or brown or even white at the end of the life cycle. There may be large "mats" of algae along the shore, or the water itself may appear colored or foamy. Sadly, they can also be invisible and harmful.

How do these toxins affect your dog? Dogs can lap up toxin laden water after or during swimming. Even if your dog licks to clean off his paws after wading, he may ingest these poisons. Not all of these cyanobacteria produce deadly toxins, but it is impossible to tell just by looking at the water.

The deadly microbes can produce two distinct types of toxins. Neither of them has an antidote. The first is microcystins. As Pet Poison Helpline notes, these toxins attack the liver, causing damage, or eventually in most cases, liver failure and death. Dogs show classic liver failure signs, which include vomiting, diarrhea, jaundice or pale membranes, and often black or tarry stools. These signs can then progress into seizures, coma, and shock. Many of these dogs hang on for a few days before dying. Intensive care started almost immediately after exposure may help.

The second toxin class is anatoxins. These are neurotoxins are rapidly fatal. The first hints of a problem are excessive drooling, followed by muscle tremors, paralysis, and difficulty breathing as the muscles for respiration are paralyzed. These dogs often die before they can get to veterinary treatment. Immediate use of anti-seizure medications and providing oxygen may circumvent death.

If you suspect your dog has been exposed, rinse him thoroughly and head immediately to the nearest open veterinary clinic.

Most states have teams checking public-access water in areas like state parks. You can check the status of your favorite swimming holes there. An example is New York state. Information can be found at <https://www.dec.ny.gov/chemical/83310.html>. ■

(New Dog, continued from page 1)

How Do I Decide?

Start by listing any strong preferences or requirements you have. Physical traits to consider include size, sex, body shape (i.e., long nose vs. short nose or lean vs. stocky), color, coat length, and grooming needs. Behavioral traits to consider include energy level, stubbornness, friendliness with people and/or dogs, protectiveness, and noisiness.

Also think about what goals you have for this dog. Do you want her to be your running partner or couch buddy? Are there any dog sports that you want to train for and compete in, and are you just looking to compete for fun, or do you want to go for national rankings? The role that you would like your dog to play in your life will determine some of the ideal traits that she should have.

The Perfect Fit

Once you have a list of the traits that you require your next dog to have, as well as things that would be nice as a bonus, you can use that list to figure out if there are specific breeds or mixes that fit your needs or if you have a lot of leeway. For example, if you want a small dog to herd your sheep, herding breeds like the Shetland Sheepdog or Pembroke Welsh Corgi are the best choice. If you want a running buddy with a short to medium-length coat, a wide range of breeds and mixes could fit your needs.

Specific requirements, be they physical or behavioral, often mean that getting a dog or puppy from a breeder is the best choice. This option gives you the most information about the dog's genetic background and their upbringing, and most breeders can advise you on whether a puppy is suited for what you want to do with the dog. But if you would prefer to get a rescue dog, work with a shelter or rescue that is willing to talk with you and work with you to find the right dog that will fit your needs.

It may take a little time to find the perfect fit, but it will be well worth the wait when you bring home the dog or puppy that is exactly what you and your family need. ■

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Can My Old Dog Eat Cat Food?

A senior dog who loses his appetite can present a challenge in finding something he will willingly eat

Food is central to quality of life for many of our dogs. They love to eat! So, when your senior dog turns up his nose at dinnertime, it's stressful for both of you. After all, nutrition is the foundation of health, so your dog has to eat his regular diet. Or, does he?

It's OK to get a little creative when trying to pique your senior dog's appetite, says Joseph J. Wakshlag, DVM, PhD, chief of nutrition at Cornell University's College of Veterinary Medicine. Being a little unhealthy for a short time is less harmful to your dog than not eating at all, especially if he is thin and/or losing body weight.

Thumbs Up for Cat Food

"If you are dealing with a lack of appetite, giving cat food to your dog can pick up appetite and is entirely safe in the normal aging dog," says Dr. Wakshlag. Many dogs love the rich meaty smell of cat food, especially canned formulas. Warming it up a little can enhance the aroma, enticing your dog to eat even if he doesn't feel his best. You can try feeding cat food alone first, and then use a little bit as a "topper" on his regular food.

If your dog has any ongoing health problems, however, feeding cat food "should be discussed with your vet if your dog has any major organ dysfunction since cat foods tend to be richer in certain nutrients," says Dr. Wakshlag. For example, that high protein level can be rough on damaged kidneys.

Doggy "Junk Food"

Much like us, dogs have a sweet tooth. Some other tricks that Dr. Wakshlag recommends to entice an anorexic senior dog to eat are corn syrup and flavored rice cakes (either lightly salted or caramel flavor). Honey can also work, as well as ricotta cheese, low-fat cream cheese, or some good old peanut butter (double check the label to be sure there is no xylitol, also sometimes listed as birch sugar, in the ingredients list).

While highly palatable treats (or doggy "junk food") are often great to get your senior dog eating, long-term feeding of an unorthodox diet can lead to nutritional deficiencies or possibly health



It can break your heart when your senior dog looks at you with a "why bother?" face as you offer dinner.

conditions such as pancreatitis. Luckily, there are "plenty of ways to do a home-prepared ration right," says Dr. Wakshlag.

Jerky treats made for dogs are another tasty option that can tempt a picky eater.

"I have used dehydrated jerky treats as the primary means of protein in a handful of cases, so these dogs were eating 30% to 50% of their energy needs in just jerky treats with appropriate vitamin and mineral supplementation," says Dr. Wakshlag. "Typically, though, only up to about 20% of their calories long-term is safe, and conservatively that number moves to 10% for some."

In the short term, do what you need to do to get your dog to eat. Keeping him at a healthy weight will help to support the rest of his health and bodily

What You Can Do

Try these doggy favorite foods

- ▶ Cat food
- ▶ Jerky treats
- ▶ Corn syrup
- ▶ Flavored rice cakes
- ▶ Honey
- ▶ Ricotta cheese
- ▶ Low-fat cream cheese
- ▶ Peanut butter

functions, and many dogs will go back to their normal eating habits after a jump-start with tasty snacks. But if it is looking like Fido plans to decline his regular food for more than a week or so, it's time to enlist help.

Talk to your veterinarian about what your dog is willing to eat and what he has refused. He or she can help you brainstorm additional things to try mixing in to create a more balanced diet, as well as steer you toward a canine multivitamin to make sure all your dog's vitamin and mineral needs are met.

Consider a consult with a board-certified veterinary nutritionist to formulate a custom plan for your dog. These experts are a fantastic resource for dog owners, as they are well-versed in canine metabolism and nutrition. A nutritionist will review your dog's health history and can design a custom plan that both fits his unique nutritional needs and is made up of ingredients that he is happy to eat.

You can fill out an online consultation form with the Loftus Nutrition Service at Cornell here: <http://www.loftuslab.vet.cornell.edu/nutrition-consult-form.html>.

Break Out the Fine China

What dog doesn't like to steal people food? Serving your dog on a plate (we recommend a paper plate rather than the heirloom fine china) can improve his appetite simply because he thinks he is getting something "better" because it is being offered on a plate instead of in his usual food bowl. This trick can be used with your dog's regular food or with something special.

Sometimes you can rev up his appetite by hand feeding a little food.

Appetite Stimulants

An appetite stimulant might help. Dr. Wakshlag recommends Entyce (capromorelin), a liquid solution that is given by mouth. Entyce mimics the hormone ghrelin, which stimulates hunger. It may take a couple days before you see improvement.

Mirtazapine can also sometimes work in dogs and can be formulated as a pill or a flavored liquid.

Bottom Line

When our senior dogs are ill, eating anything—even junk food—is better than nothing. Get creative and consult with your vet or a nutritionist to formulate a long-term feeding plan. ■

Gain Control of Seizures

If you've never seen a dog in a convulsive seizure, you're lucky, because it's awful

Seizures come in all shapes and sizes. The big, bad grand mal seizure is a generalized seizure with widespread excessive, abnormal electrical activity occurring in both sides of the brain. Also known as tonic-clonic, or convulsive seizure, it's the one where the dog suddenly falls over with violent, jerking spasms of all four limbs, paddling, frothing at the mouth, possible loss of bladder and bowel control, and loss of consciousness.

If this happens, first, make sure you both stay safe. To keep your dog safe from injury, remove any items near him that are breakable or that may fall on him. If he is near a set of stairs, try to stay below him on the stairs—if you can safely do so—to prevent him from falling.

Avoid your dog's mouth so you don't get bitten. The natural tendency is to comfort your dog by hugging and/or stroking his head. But your dog is not aware during a seizure, nor is he in control of his violent jaw movements. Furthermore, in the minutes to hours after a seizure, called the postictal phase, your dog may be disoriented or confused, which can even be expressed as aggressive behavior or rage. You need to be careful.

Try to time the seizure and keep a log. Timing the seizure is important



Idiopathic epilepsy usually starts between 6 months and 6 years of age.

because of a life-threatening condition called status epilepticus. "Status epilepticus is an ongoing seizure that doesn't self-resolve, typically considered more than five minutes," says Dr. Peter Early, visiting clinical professor of neurology at Cornell University's College of Veterinary Medicine.

If a dog is in status epilepticus for too long, he could die. There is so much intense, violent physical activity that the core body temperature rises to life-threatening levels. Status epilepticus requires emergency veterinary intervention with intravenous medication, usually a benzodiazepine like

diazepam (Valium), to break the seizure.

Beyond the classic grand mal seizure described above, other generalized seizures include tonic (stiff, extended limbs that don't move or jerk), clonic (hyperflexed, non-jerking limbs), myoclonic (jerking limbs), and atonic (standing, staring, non-responsive).

Causes

Seizures can be caused by metabolic disorders like low blood sugar or low blood calcium, liver disease, liver shunts, kidney disease, and others. These seizures are called reactive seizures. The brain is normal, and if the metabolic disorder can be corrected, the seizures go away.

Some drugs can cause seizures by lowering the seizure threshold in the brain. Discontinuing the drug resolves these reactive seizures.

Toxins, like dark chocolate, caffeine, the sugar substitute xylitol, anti-freeze, rat poison, and liquor, to name a few, can cause seizures. Eliminating exposure to the toxin and giving treatment for the toxin removes the seizures.

Seizures can be caused by abnormalities in the brain itself. Called structural seizures, they're caused by things like tumors, head trauma, inflammatory diseases, and infectious diseases like rabies and canine distemper.

Unfortunately, the most common cause of seizures is idiopathic epilepsy, which is seizures of unknown origin. A diagnosis of idiopathic epilepsy is typically made after every other cause has been ruled out.

Idiopathic epilepsy usually starts between 6 months and 6 years of age. Dogs less than 1 year old are more likely to have either a congenital defect, an intoxication, or an infectious disease like canine distemper. Dogs that are over 6 years old when they have their first seizure are more likely to have a metabolic disorder or a structural brain lesion like a tumor or a stroke.

Breed predilection toward epilepsy is another clue your veterinarian uses. Schnauzers, Collies, Bassett Hounds, Cocker Spaniels, Labrador Retrievers, and Golden Retrievers are over-represented compared to other breeds.

Treatments

If your dog is between 6 months and 6 years of age and tests are normal, most veterinarians agree antiepileptic drug therapy is not indicated after the first

Red-Alert Emergency

The first time your dog has a seizure, remain calm, stay safe, time the seizure, and when your dog has recovered, schedule a veterinary exam as soon as possible.

If you can, get a video of the event. Your veterinarian must determine if the event was indeed a seizure, so a video can be immensely helpful. The most significant differential for a seizure episode is a cardiac or vestibular (balance) event. "Vestibular events commonly include loss of balance, incoordination, head tilt, and abnormal eye movements (nystagmus)," says Dr. Early.

Intermittent cardiac arrhythmia can result in confusion, weakness, and collapse, which can be mistaken for seizure activity. Generally, cardiac collapse tends to be softer than seizure activity, more like fainting, and the dog usually recovers more quickly.

Five minutes: If your dog has been seizing for more than five minutes, go to the veterinary clinic immediately. If he is still seizing when you get there, he is in dire need of emergency help. If the seizure resolves while you are on your way, sit tight for a little bit. If your dog remains quiet, the life-threatening status epilepticus emergency is over. He still needs to be seen by your veterinarian, but you don't necessarily have to incur an emergency fee.

seizure. There are exceptions, of course:

- ▶ Cluster seizures (one or more seizures in a 24-hour period)
- ▶ Particularly violent seizures
- ▶ Seizures lasting five minutes or more
- ▶ Breed of dog: German Shepherd Dog, Border Collie, Irish Setter, Golden Retriever, Siberian Husky, Keeshond, and Saint Bernard (all known to have difficult seizures)

For all the other situations, your seizure log will help determine when it might be time to start anticonvulsant therapy, based on increasing length, frequency, or severity of seizures.

You might wonder why not just start my dog on anticonvulsants to prevent another seizure. Consider this: Your dog may never have another seizure. Or he may have a mild one once a year. We really don't know until we see how it plays out. And once an antiepileptic is started, it is generally necessary for life.

If your dog is an epileptic who rarely has a seizure, you are taxing his body with a medication he really doesn't need, and you are paying for it. In addition, well-managed epileptics on anticonvulsants may still have breakthrough seizures here and there. So, a seizure-free future is not a guarantee, even with long-term medication.

Keeping in mind the above reasons for not starting anticonvulsants right away, we should point out that the seizure itself is perhaps not completely benign. A study by Maeso et al published in the *Journal of the American Veterinary Medical Association*, January 2022, discusses the fact that dogs appear to have abnormal MRI brain lesions in the aftermath of a seizure. These lesions are called postictal changes (PC) and are thought to be due to a combination of cellular damage, cellular stress, and swelling. In humans, these lesions are known to reverse with time. The presumption is that this may also be true for dogs, but further study is needed.

"A general rule is to start antiepileptic drugs if there is more than one seizure a month," says Dr. Early. Most veterinary professionals feel if a dog is seizing as much as once a month, it's too much for his quality of life and for yours. Starting anticonvulsant therapy will likely be recommended in this case. You, however, should be the ultimate decider of when enough is enough and it's time to treat.

Phenobarbital, levetiracetam (Keppra), zonisamide, and potassium bromide are all good first choices for

treatment. There are several different anticonvulsants available for dogs. Zonisamide and levetiracetam have become popular, as they work well with minimal side effects. Phenobarbital, potassium bromide, and topiramate are other medications your veterinarian may discuss with you.

"Approximately 20% of dogs have refractory epilepsy and require more than one antiepileptic medication," says Dr. Early. Some dogs may require more than one medication to manage their seizures. Levetiracetam is frequently used as a second medication. It is short-acting, which means it must be dosed three times a day. This can be challenging for dog owners. The extended-release formula, Keppra XR, with its twice-a-day dosing, is easier.

"There are challenges and frustration with refractory epilepsy cases," says Dr. Early. What if your previously well-managed epileptic is having more and more breakthrough seizures? Unfortunately, some dogs will develop tolerance to their anticonvulsant medication over time. In these cases, the liver continuously increases the rate at which it metabolizes the drug, making

Focal Seizure

Focal seizures, as opposed to generalized seizures, happen when the abnormal electrical activity is localized to just one spot in the brain. It can look like a lot of different things. "Fly-biting" is a classic one, where the dog looks like they are seeing and repeatedly snapping at flies. The "chewing gum fit" is where the jaw repeatedly clacks. A focal seizure might just be repeated twitching of an eyelid, lip, or ear. There is not necessarily a loss of consciousness. These types of seizures usually don't require treatment. A focal seizure, however, can segue into a generalized seizure so be sure to keep a close watch until it passes.

higher and higher doses necessary. And, of course, higher doses mean more and worse side effects. These cases can be extremely frustrating and very challenging to manage.

Seizures in dogs are frightening and hard to endure. Luckily, we have many tools to help diagnose and manage this heart-breaking condition. Always consult with your dog's veterinarian. ■

Other Options Your Veterinarian May Recommend

Rectal diazepam or intranasal midazolam. Your veterinarian can dispense diazepam (Valium) for rectal administration during a seizure. This will be dispensed to you with a syringe and a rubber tube. Gently introducing the tip of the rubber tube about an inch into the rectum and dispensing the medication will often shorten and lessen the severity of the seizure. Your veterinarian may also suggest intranasal midazolam, another benzodiazepine that can be applied inside your dog's nostrils to control seizures at home.

Pulse Keppra therapy. If your dog is prone to cluster seizures while on an anticonvulsant, ask your veterinarian about keeping levetiracetam on hand. A few doses of this short-acting anticonvulsant can be given after a seizure to prevent a cluster.

Adjunctive therapies. Stimulating your dog's vagal nerve may help lessen the duration and severity of a seizure. If you can safely do this, gently push on your dog's eyes, with closed lids, for 10 to 60 seconds. This can be repeated every five minutes. If you recognize your dog's pre-ictal signs, you may even be able to stave off a seizure with this maneuver.

Traditional Chinese Veterinary Medicine (TCVM). TCVM includes acupuncture and Chinese herbal remedies and can improve seizure control for dogs with refractory seizures even when on antiepileptic medication or to help lower the dose of anticonvulsant medications. You will need to find a specialist trained in this art, as most veterinary general practitioners are not.

Prescription food. Purina Pro Plan Veterinary Diet NeuroCare (NC) is an option, especially if your dog has refractory seizures despite anticonvulsant medication. This diet contains medium chain triglycerides (MCTs), which are known to block one of the receptors in the brain responsible for seizures. Studies have shown a significant reduction in seizure activity when epileptic dogs are fed this diet.

Itchy Ear Problems

The cause may be an itch or a full-blown infection

Most dogs scratch at an ear occasionally. However, if you notice your dog scratching frequently, crying when he scratches, holding his head tilted, or has ear redness or hair loss, you need to investigate.

The causes of ear problems are many—from parasites to foreign bodies, to a complicated case of allergies. When we asked Julia E. Miller, DVM, assistant clinical professor of dermatology at Cornell University's College of Veterinary Medicine, about causes for ear scratching, we received an immediate response of, "Allergies. Allergies. Allergies! Most dogs will scratch at their ears because there is a little allergic inflammation first and then they develop infections as a secondary problem," says Dr. Miller.

While you can treat for temporary relief of allergies, you need to determine the causes and take appropriate action to get it stopped. Allergies can be a complicated problem, but once you find the key allergens, treatment can be successful, although secondary yeast and bacterial infections are common, requiring medication.

If your dog has seasonal allergies to certain plant pollens, you may control the itching with a short course of corticosteroids. For year-round allergies, skin or blood testing to identify the allergens and treat with immunotherapy is ideal. Food allergies may require a change in diet. Dogs with serious allergies often benefit from a referral to a veterinary dermatologist.

Ear Hematoma

A hematoma is caused when your dog's vigorous ear scratching and head shaking bursts a blood vessel. Without medical attention, the ear will crinkle into a "cauliflower ear" as the hematoma regresses. If your dog has a soft swelling of his ear flap, contact your veterinarian. This swelling can be painful, and your dog may hold his ear slightly out from his head due to the discomfort. Ear hematomas can be seen in dogs with prick ears, but most of them occur in dogs with drop ears. Surgery is often recommended.



Your veterinarian will use an otoscope to look into the ear.

Ear Mites

Ear mites cause intense scratching. If you look in your dog's ears and see dark brown debris that resembles coffee grounds, your dog most likely has ear mites. This parasite can be shared with cats, other dogs in the family, and even the family ferret. Luckily, this mite does not take up residence in your house like fleas, so treating all the pets can eliminate it.

Dr. Miller's experience is that over-the-counter products are not effective and can cause more inflammation in the ear canal. Your veterinarian can guide you as to a good cleaning solution and an appropriate medication to kill the mites.

Foreign bodies such as insects, ticks, and various plant materials such as foxtail may be flushed out by your veterinarian. Other things in the ear might require sedation while your veterinarian carefully works with forceps to remove them.

Infections

An ear infection can be painful. If your dog has a lot of debris, his ear is red, inflamed, and moist, or he has a puslike discharge, he may benefit from an exam and cleaning under anesthesia.

Symptoms that should make you go to a veterinarian on an emergency basis include signs that the infection has gone deeper into the middle ear (head tilted to one side, drunken gait, vocalizing) and/or if the dog is scratching at his ear so much

that he is causing secondary trauma to his face (making scratches or sores on his head).

What if it's the weekend and we're away? Can it wait? To keep a dog with ear problems comfortable over the weekend, it's important that the dog not scratch viciously at his ears and cause other issues, says Dr. Miller. An Elizabethan cone collar or no-flap ear wrap may help prevent self-trauma.

You also can try an over-the-counter ear cleaner to help decrease the bacterial or yeast population in the ear temporarily, but a visit to the veterinarian as soon as possible is best.

Treatment

At the veterinary visit, a swab of any ear discharge or debris will be taken for examination under the microscope. Parasites, bacteria, and yeast can all be identified this way. Knowing the cause will guide your veterinarian's choice of medications, which may be topical, oral, or a combination of the two.

Your veterinarian will also do an otoscopic exam, looking for foreign bodies and mites, plus checking to see if your dog's tympanic membrane (ear drum) is intact. The state of the ear drum can influence which medications are safe to use. Dogs with a head tilt need a thorough otoscopic exam and may benefit from radiographs. Your veterinarian needs to rule out middle otitis and possible growths in that area.

Without question, a dog scratching and digging at his ears is in misery. Getting to the cause quickly with appropriate treatment is wise. If secondary infections have time to set in, things get even worse. A trip to your veterinarian is money well spent. ■

Take Precautions When Swimming

Swimming is a common cause of ear infections, especially in lakes, streams, and rivers. Avoid getting water in your dog's ears. Water itself shouldn't cause a problem, but if the ear canal stays warm and moist, it is a perfect setup for growing yeast and bacteria.

This is a bigger problem for dogs with drop ears, like Labradors and Golden Retrievers. Gently drying the ear and wiping out the canal with a cotton ball after swimming can help.

Parasitic Drug Resistance

This growing problem could jeopardize your dog

You've likely heard of antibiotic-resistant bacteria. Unfortunately, we're seeing parasites that are resistant to drugs normally used to treat them as well, and that includes the ones in dogs. It's a serious problem.

Resistant parasites may mean a longer course of therapy with medications that are known to usually be effective or having to search for newer treatments. Both options mean more expense and hassle for pet owners.

Dwight Bowman, PhD, professor of parasitology at Cornell University's College of Veterinary Medicine, says the three big concerns for dogs right now are heartworm, hookworms, and tapeworms. Heartworms and hookworms can be fatal. All three can be spread to humans.

Hookworms

The canine hookworm is the most common canine intestinal nematode parasite in the United States. The American Association of Veterinary Parasitologists has formed a national task force to address the issue of drug resistance in canine hookworms.

Racing Greyhounds get the dubious status of prime resistant-hookworm candidates. Dr. Bowman says that many kennels, centered in Georgia and Florida, kept fairly large numbers of dogs in dirt runs. The warm, humid climate plus dirt, which was not replaced frequently, meant there was a perfect hookworm nursery. Kennel owners dosed their dogs almost weekly with a variety of drugs to try to keep parasite infestations down, which would also select for resistance.

You Should Know

Clinical signs of parasites

Heartworm: respiratory and cardiac signs, labored breathing, congestive heart failure

Hookworm: bloody diarrhea, weight loss, anemia (primarily in puppies)

Tapeworm: abdominal pain, vomiting/diarrhea, often accompanied by a mild anal itching associated with tapeworm segments in the perianal area

With Greyhound racing now banned in most areas, the dogs were dispersed throughout the country, taking their resistant hookworms with them. Hookworms can infest any dog; Greyhounds simply had the "perfect storm" of conditions for multi-drug-resistant (MDR) hookworms.

Another epidemiologic setup ideal for resistant hookworms is dog parks. One recent survey showed that dogs who regularly attended dog parks had a 70% higher prevalence of hookworm infestation than pet dogs. Also contributing to potential resistance development is that dogs are not routinely tested for hookworms, so a small colony of resistant parasites could be present without anyone realizing it.

With MDR hookworms, researchers are looking for medications outside the norm that might work. One candidate is emodepside, a dewormer initially only approved for cats but combined with praziquantel for tapeworms, shows effectiveness for MDR hookworms in dogs as well.

You can help prevent hookworm resistance by doing annual fecals (plus one anytime your dog has diarrhea, especially if it is bloody) to catch an infestation early on. Use all your dispensed medication as directed. Follow with another fecal a couple of weeks post treatment. Pick up after your dog, and avoid dog parks without a strict dog health policy.

Tapeworms

The canine tapeworm uses fleas as a pathway to infest dogs and can infest humans as well. The traditional medication for tapeworms is praziquantel. Recent work out of the Midwest picked up tapeworm cases that were resistant to praziquantel and required combinations of medications and off-label use of another medication. That means more expense and rechecks to be sure the tapeworm has responded.

Avoiding resistant tapeworms starts with good flea control, so your dog never gets any tapeworms. Dr. Bowman believes that some of the most effective flea-control medications contain growth control inhibitors such as lufenuron.

If you have a flea infestation already, you may need to add additional medications to treat your dog faster and to treat your home. Treat all pets.

Heartworm

Heartworm preventives are based on one class of drug, macrocyclic lactones. That fact makes it more likely that resistance may develop and harder to find alternatives, says Dr. Bowman.

Heartworm resistance has centered around the Gulf and southeastern states. However, a resistant strain also has been isolated in Illinois. Researchers identified a genetically distinct population of heartworms that are resistant but have not been able to identify a "specific resistance" gene.

Luckily, heartworm resistance isn't a big problem yet. Recommendations for helping prevent the development of resistant heartworms include doing annual testing even if your dog has been on a preventive and providing heartworm preventives, per manufacturer instructions, all year round, with annual testing of your dog.

Bottom Line

Drug resistance is a growing problem, and the only recommended way to help prevent it from worsening is to use all drugs as dispensed.

Changing dosages to lower amounts, stretching the time between doses and ignoring prescribed time frames, and skipping doses entirely to save money or to "protect" your dog from chemicals only adds to the problem.

It's not as easy to notice a parasitic infection as it is fleas or ticks, but a fecal test at your dog's annual exam is a strong first step. ■



Rough play isn't the only concern with dog parks. The environment in most dog parks is ideal for hookworms.

Stop the Playful Mounting

Ending the undesirable behavior means training

Q My spayed female mix, who weighs about 6 pounds and is the most excitable, energetic dog I have ever seen, wants to hump my arm at night while I'm quietly watching TV. It's nearly impossible to stop. I try to distract her by getting up and playing with her or putting her outside for a few minutes, but she's at it again.

It's annoying. She doesn't do it when people are around, thank goodness, probably because someone new in the house is a distraction. Thank you for some training advice on stopping this.

A My first problem is that I really dislike the term "humping" when people mean mounting (one dog standing on its hind legs and putting its body on the back of another dog or the leg of a human). My dislike probably comes from thinking of humps as something that camels have.

It was my late husband who found that camels do not store water in their humps. If a camel has a hump, it is filled with fat, not water, and camels do a lot of things behaviorally and physiologically to conserve water. Anyway, I digress.

Why do dogs mount one another? The main reason, of course, is for reproduction, i.e., sex, but dogs also mount to establish dominance, and they often mount in play.

I looked back at my cases and found that there were about 150 cases of mounting, with 110 by male dogs and 40 by females. This means that your dog is fairly unusual as a female who mounts. Half of the male dogs had been neutered and more than half of the females. This indicates that neutering does not "cure" a dog that mounts.

Who did the dogs mount? Mostly people (78 cases) or other dogs (68 cases), but 12 mounted inanimate objects and two dogs mounted cats.

In solving any behavior problem, we try to determine why the dog is doing the behavior. What is the motivation? We can assume that the dog has the same motivation for mounting people as for mounting other dogs: dominance, sex, and play.

We don't believe dogs see us as members of their pack and seek to dominate us, but in this case, they feel that they can invade our space. The dog may be playing or showing re-directed sexual behavior. If she not only mounts but also thrusts with her pelvis, it is most likely to be sexual behavior. Both

male and female dogs can exhibit male sexual behavior, especially if the female had male puppies on either side of her in the uterus. These "womb mates" can masculinize the female puppy's brain through the male hormones they secrete during fetal development.

The treatment is training. If the dog sits when you say sit, she won't jump on you. This is called counterconditioning because you are training a behavior that is incompatible with mounting. If your dog doesn't already know how to sit on cue—and she should!—it's time to work on that and use it when she needs to be distracted from the inappropriate behavior she is showing. With time, she will learn that mounting will not be tolerated and that responding to the sit cue earns her a reward/treat. ■

5 THINGS

Make Your Hotel Stay Better for Your Dog

Keep your dogs safe, avoid hotel damage, and keep canines welcome

- 1** When making your reservation, confirm that the hotel is indeed pet friendly. Be prepared for extra fees. Let them know how many dogs you will be traveling with as some hotels have restrictions on how many dogs you can bring. You don't want to be turned away with your dogs on a cold, dark, rainy night in the middle of nowhere.
- 2** Bring food and water bowls. It is not cool to use the ice bucket for a water bowl. The toilet is not recommended either, as there may be chemical cleaners in it. Bring a sheet to cover the bed to minimize the hair left behind. Check the room for hazards, especially if you're bringing a young dog who might be interested in chewing electrical cords. Check for dropped pills others may have left behind.
- 3** Be respectful of other guests who may not be pet friendly themselves. Don't assume others want to engage with your dog. If other guests enter the elevator, politely wait for the next ride. Try to use side or back doors for entering and exiting, avoiding the main doors and lobby when possible.
- 4** Never leave dogs unattended in your room. Nuisance barking is the second biggest reason we will lose the luxury of being welcome with our dogs at hotels. Additionally, even well-behaved dogs can get destructive when stressed in unfamiliar surroundings. Supervising your dog is the respectful thing to do.
- 5** The No. 1 biggest reason we will all end up losing the privilege of staying at hotels with our dogs is owners not picking up their dog's poop. Just pick it up, people! Every time. No excuses. Don't let your dog urinate on the building or near any entrances, and stay out of the landscaping. ■



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 or send by regular mail to DogWatch, 535 Connecticut Ave., Norwalk, CT 06854-1713.



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