

THIS JUST IN

CBD for Canine Stress

Usefulness remains unclear

Two studies using cannabidiol (CBD) to help dogs in stressful situations have not resulted in straightforward results. It seems that CBD may help reduce anxiety in some dogs in some situations but not all.

A 2023 study used one dose of a CBD distillate on 40 dogs. The dogs were evenly divided among Labrador Retrievers, Beagles, and Norfolk Terriers. Dogs received the treatment or a placebo two hours before either going for a car ride or being left alone.

The researchers concluded that “the mitigating effect of CBD treatment varied by measure and test, with some indicating a significant reduction in stress compared to the placebo group.”

A second study, from 2020, compared CBD to trazodone for noise reactivity, exposing 12 dogs to thunderstorm tracks and 16 to fireworks.

The researchers found that CBD alone did not appear to reduce anxiety in the dogs. When CBD was combined with trazodone, a drug often used to control short-term anxiety in dogs, it seemed to reduce the effects of trazodone. ■

Hunt, AGB, et al. “A single dose of cannabidiol (CBD) positively influences measures of stress in dogs during separation and car travel,” *Frontiers in Veterinary Science*, February 22, 2023.

Morris, E, et al. “The Impact of Feeding Cannabidiol (CBD) Containing Treats on Canine Response to a Noise-Induced Fear Response Test,” *Frontiers in Veterinary Science*, September 22, 2020.

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Skunked! Beyond the Stink

Compounds in skunk spray can damage red blood cells

There's no question about what happened if your dog got sprayed by a skunk. Everybody recognizes that smell. What not everyone realizes, however, is that this stinky disaster can be deadly.

Compounds in skunk spray can cause chemical reactions that damage red blood cells and hemoglobin. Hemoglobin damage occurs within minutes to hours. Signs of red blood cell damage can take several days. Your dog could die.

Fortunately, this deadly reaction is not common, but it's real. And some circumstances make it more likely.

Small dogs who get sprayed while trying to dig skunks out of burrows are most likely to experience this life-threatening phenomenon. These little guys can collapse and lose consciousness so quickly that they must be dug out of the burrow to be rescued.

Immediate first aid is important if your dog gets sprayed in the face. Skunk spray contains caustic chemicals that can damage the sensitive tissues of the eyes and mouth.

Signs of Hemoglobin Damage

Occurs within minutes to hours

- ▶ Chocolate-colored gums
- ▶ Chocolate-colored urine
- ▶ Trouble breathing
- ▶ Weakness
- ▶ Collapse
- ▶ Seizure
- ▶ Coma

Signs of Red Blood Cell Damage

May take several days to appear

- ▶ Lethargy
- ▶ Weakness
- ▶ Loss of appetite
- ▶ Trouble breathing

If your dog is squinting, flush the eyes copiously with tepid tap water or sterile saline solution (eye wash). If he is foaming at the mouth or pawing at his mouth flush that as well. If the eyes or mouth continue to bother him, give him a bath following the procedures in our sidebar and head to the veterinarian. ■

Bathing Away the Smell

The best remedy for skunk odor is a simple homemade recipe. Nothing else comes close, so don't bother with commercial products. Keep these ingredients on hand:

- ▶ 1 qt 3% hydrogen peroxide (fresh!)
- ▶ ¼ cup baking soda
- ▶ 1 tbsp liquid dish soap

First, bathe your dog with something like Dawn dishwashing liquid to remove as much of the oily film as you can. Next, mix the ingredients and use the entire contents, rubbing it into your dog's coat for 5 minutes. Focus heavily on the areas directly sprayed. Rinse. As long as you have treated every area hit by spray, your dog should smell clean and fresh.

- ▶ Do not mix the solution ahead of time and store. The recipe must be fresh to work.
- ▶ If your dog got sprayed in the face, you must treat the face. Use care to keep the solution from getting in his eyes. Hold his eyelids closed while rinsing.
- ▶ Do not leave solution on longer than five minutes as it may bleach the coat.
- ▶ Repeat as needed.



Unarmed/istock

Research Is Picking Up on Freeze-Dried Foods

The convenience of freeze-dried foods over raw food has spurred both its popularity and studies ensuring its quality

Researchers at the University of Illinois and the University of Guelph looked at the digestibility of proteins in freeze-dried pet foods. These foods are growing in popularity, especially with dog owners who want a minimally processed food but can't feed a raw diet or don't want to dedicate a separate freezer just for their dog's raw food. Freeze-dried foods can be safely stored without refrigeration, making them convenient for travel and at home. Dogs love freeze-dried food, but studies on the food may be lagging somewhat behind its growth.

In this study, researchers decided to consider protein. If a dog can't digest, absorb, and utilize the amino acids in a protein, that protein is no good to him. This is particularly important for the essential amino acids, which are the ones a dog requires in adequate amounts in his diet.

There are 10 essential amino acids—arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine—that dogs either can't produce these on their own or can't produce them in large enough quantities to support growth and health. And, because these amino acids are constantly being metabolized, they must be available through the diet on a regular basis.

Study Results

Using surgically prepped roosters, the researchers looked at digestibility of amino acids from three types of freeze-dried foods: standard freeze-dried nuggets, low-temperature freeze-dried nuggets, and a hybrid freeze-dried nugget.

Digestibility was high for all three, including for essential amino acids. The low temperature freeze drying had slightly better digestibility, but all versions showed digestibility over 90% for almost all the amino acids.

This study confirms that freeze drying, while expensive, is a valid way to produce minimally processed pet food that preserves protein and maintains digestibility. ■

Oba, PM, et al. "104 Standardized Amino Acid Digestibility of Three Formats of Freeze-Dried dog Foods Using the Precision-fed Cecectomized Rooster Assay," Journal of Animal Science, October 2022.



He only cares that it tastes good, but we care that it's good for him.

Why Roosters?

Amino acid digestion and absorption by dogs and cats stops at the end of the small intestine, called the ileo-cecal junction, says nutritionist Mary Cope, Ph.D. However, this doesn't mean the breakdown of amino acids ends in the digestive tract.

The large intestine is home to bacteria, many of which reside in the cecum. The cecum, a structure similar to the appendix in humans, is the site of hind-gut fermentation where bacteria continue to break down proteins not digested by the animal. Unfortunately, this means that fecal collection results are an inaccurate measurement of amino acid digestibility in foods.

There are two good methods for determining amino digestibility in diets: the use of a colony of ileal cannulated dogs and cats, where the ileal contents can be collected directly from the end of the small intestine (think colostomy bag), or a colony of cecectomized roosters, as in this study.

Cecectomized roosters have had their ceca surgically removed, effectively eliminating the bacteria responsible for hind-gut fermentation. In the companion animal industry, cecectomized roosters are routinely used for determining amino acid digestibility. This technique has been utilized for decades, has a high level of accuracy, and replaces the need for laboratory dogs and cats for the determination of amino acid digestibility.

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Should I Shave My Dog?

As it gets hot this summer, the temptation to shave your dog's coat may cross your mind—forget about it

As summer approaches, owners of longhaired dogs may wonder if they should shave their pup. For most dogs, regular brushing to prevent mats and tangles is all that is needed to keep your dog feeling good during the warmer months, plus water and shade of course.

Fluff with a Purpose

Your dog's coat isn't just for show. Like many other mammals, his hair protects his skin from sunburns and scratches and provides insulation against both hot and cold temperatures.

Many dogs have two different layers to their coat: guard hairs and undercoat. The guard hairs are the more brightly colored outer layer, typically smooth or harsh in texture. These hairs allow briars and dirt to fall off easily and shed water. The undercoat is the softer, plush layer underneath the guard hairs. Undercoat is often lighter in color, and the density will vary by time of year. This cottony layer provides insulation to help regulate your dog's body temperature.

Different breeds may have different coat textures depending on the purpose that they were selected for over the centuries. Working dogs such as Siberian Huskies, Golden Retrievers, and Scottish Terriers typically have a very harsh coat texture that is resistant to tangles and picking up debris. This helps to keep their coat in good shape even while they are out doing their jobs.

Breeds selected solely as companions, such as the Pekingese, Cavalier King Charles Spaniel, or Pomeranian, often have softer, more cottony coats even in the outer layer. These coats will be much more prone to forming mats and tangles, requiring more grooming.

Temperature Regulation

Yes, the undercoat helps to keep dogs warm in the winter. But their coats also help to insulate them in the summer, protecting their skin from the sun's rays. If you wiggle your hand deep under the fluff on a dog with a thick coat, such as a Great Pyrenees, you may find that it is cooler under there than on the top when out in the hot sun.

The key, however, is proper



A dog's coat protects his skin from things like scratches and sunburn.

ventilation and air flow. A long coat that is well maintained will be much more comfortable than one that has extensive mats and tangles. Clumping prevents air flow and traps moisture next to the skin, increasing the risk of hot spots and other skin infections.

Shedding is part of your dog's temperature regulation strategy. Most dogs do somewhat seasonal sheds in the spring and fall: one to prepare for summer, where less undercoat is needed, and one to prepare for winter, when more undercoat is needed. Shedding cycles can also be influenced by hormones as your puppy matures or as females go through their heat cycle.

Dogs with thick or long coats must be brushed regularly, especially during the warmer months, to remove dead hair promptly and resolve any clumps before they develop into mats. This strategy combined with free access to shade and fresh water will keep most dogs comfortable even in the heat of summer.

When Shaving is Needed

Sometimes shaving your dog is necessary. Situations where the benefits outweigh the negative consequences include:

Severe mats. You or your groomer may be able to tease out small mats by

hand, but larger mats and those that have settled down to the skin can be painful to remove. It is often kinder to shave the dog to get a clean start and then institute regular grooming care to manage the coat as it grows back in.

Hot spots and skin infections.

Bacteria and other microbes love warm, moist environments, and thick hair can provide that. Shaving allows greater air flow to the area, makes applying topical medications easier, and speeds healing.

Medical procedures. Your dog will be shaved if he is having a surgery performed or a catheter placed into a vein. This is for his health and safety. Bacteria and other debris can grip onto hair and manage to cause an infection. Shaving allows the veterinary team to sanitize the skin where they will be working and keep your pet healthy.

Belly shave in the summer. For some thick-coated dogs, shaving just their undersides can be a boon in the hot months. This allows increased air flow to their belly, but still leaves most of their coat in place to protect from the sun.

When normal grooming isn't possible. Some health conditions can cause abnormalities in the skin and coat that prevent normal grooming, and some dogs behaviorally just won't tolerate regular grooming. In these cases, shaving may be the best choice.

Some dogs have unique coats that require regular trimming, although a full shave is still not necessary. Poodles and Poodle mixes often have hair that grows continuously, so it needs regular trims to keep the poof to a manageable level. Shih Tzu and Cocker Spaniels with long hair on their undersides may benefit from trims to prevent mats and tangles. ■

Problems with Shaving

Shaving a thick-coated dog removes all the dog's natural insulation and protection. Having no coat makes it harder for a dog to regulate his body temperature and increases the risk of sunburn and scratches.

Shaving too close increases the risk of ingrown hairs. Ingrown hairs are painful and can become infected. The hair will grow back after being shaved, but it may come in with a different texture or even a slightly different color. These changes typically resolve within one shed cycle but may be long-lasting.

Separation Anxiety

Managing your dog's home-alone panic requires gradual changes that ease the dog into acceptance

Surveys report that 20% to 40% of dogs experience separation anxiety. Those are staggering numbers, especially when you consider how difficult separation anxiety can be to manage and the stress that it puts on the whole household.

Separation anxiety usually occurs when changes in our daily routines cause us to be away from home longer than usual. Some dogs are OK with the quiet time, content to wait until you return. Others cannot accept the change in routine and panic when left alone.

"It is difficult to tell how long it will take for dogs to learn to be alone without panicking. Obviously, the more severe the separation anxiety, the longer it will take," says Pamela J. Perry, DVM, PhD, behavior resident at Cornell University's College of Veterinary Medicine.

"With proper management, behavior modification, and the use of medication, most dogs can improve within four to six months or less. That said, there is a lot of individual variation in response to treatment," says Dr. Perry.

Diagnosing Separation Anxiety

The signs of separation anxiety can look like other behavior problems, but typically only occur when the dog's favorite person is out of the house or even just preparing to leave. Affected

dogs get upset when "their" person leaves. Some of these dogs are also clingy, following their person from room to room and not wanting to be separate.

When left alone, dogs with separation anxiety may:

- ▶ Pace
- ▶ Whine, bark, or howl
- ▶ Destroy furniture or other household items
- ▶ Urinate or defecate in the house

Anxious behaviors may begin to appear as you prepare to leave. Seemingly innocuous actions such as picking up your keys, placing your coffee mug near the door, or putting on your coat all signal to your dog that you are about to leave, and all the negative feelings that come with being alone start to roll in.

Separation anxiety isn't a disorder to be treated. Instead, you implement changes in your dog's routine to alleviate anxiety where possible and manage the stress that does occur.

Dr. Perry says these strategies generally fall under three categories: management, behavioral modification, and medications.

Management Strategies

Mix up your departure routine, such as getting everything organized ahead of time, then hanging out with your dog before leaving. Try to do things that

signal you are preparing to leave out of your dog's sight by closing doors or feeding your dog in another room.

Establish a new, consistent routine with regularly scheduled times for everything, including meals, walks, playtime, and alone time. This way your dog knows what to expect at different times of day.

When you return to the house, keep reunions calm and relaxed, like being away and coming back is no big deal.

Provide plenty of mental and physical exercise for your dog. A tired dog is more likely to rest.

You can also:

Use calming products, like pheromone collars, diffusers, or a calming shirt or wrap (get your dog used to wearing it while you are home first).

Leave safe engaging toys, like puzzle toys with hidden treats. Prepare frozen treat-filled toys for your dog to chew on when you leave.

Play soothing music, record yourself reading a book, or leave the TV on, so the house doesn't sound empty.

Hire a dog walker or enlist a friend to check on your dog throughout the day and keep them company if you are away for more than a couple of hours.

Behavioral Modification

The goal here is to change how your dog responds to being left alone. This will take time, and the guidance of a behaviorist may help. Ways to successfully implement behavior modification include:

Crate training. The goal is to make your dog view a crate as a safe place.

Condition your dog to be calm while you leave. Start by stepping out of sight and then immediately coming back and quietly praising your dog or letting him out of his crate. Gradually increase the time you are out of sight, but only if your dog is calm. Work up to leaving the house and going for short outings.

Pair signals that cause your dog stress with good things. For example, make giving your dog a tasty treat part of your departure routine, or throw a favorite toy as you put on your coat.

Remember that outdoor sounds are also signs of departure. Dogs quickly learn that things like your garage door opening or your car starting mean you're leaving the house. Work these into your training program after your dog has become comfortable with you going out the door.



Some dogs may seek out a spot with your scent, such as the bed, where they can quietly wait for your return. Stationing builds on this natural tendency. A dog needs to wait, knowing you will return.



This dog may have been acting out over the stress of being alone. Certainly, there are other potential causes, such as inadequate exercise, but separation anxiety should be considered.

Encourage independence. Ignore your dog when he tries to demand attention by pawing, whining, or otherwise actively seeking attention. Instead, cuddle and play with him until he settles down on his own. This will decrease the value of attention-seeking behaviors, while rewarding your dog for being calm.

Medications

If needed your veterinarian can prescribe anti-anxiety medications to help keep your dog calm, especially if there's a concern he could hurt himself. Drugs may only be needed temporarily while you start behavioral modification, or they may be needed long-term.

Some antianxiety meds that may be used for dogs include:

- ▶ Fluoxetine (Prozac)
- ▶ Clomipramine
- ▶ Alprazolam (Xanax)
- ▶ Dexmedetomidine (Sileo)
- ▶ Amitriptyline

Bottom Line

Managing separation anxiety is rarely about finding one silver bullet. Instead, you will likely need to combine a variety of different strategies to find which things work for your dog, as we outlined here. One of the best ways to train your dog to accept when you leave the house is to institute a training method called “stationing” (see sidebar for the training steps for stationing).

Remember that separation anxiety truly is stressful for your dog. ■

What You Can Do: Consider Using “Stationing”

“A primary goal of treating separation anxiety is to reinforce the dog’s independence,” says Dr. Perry. “One way to do this is to teach the dog to remain lying on a mat or bed while the owner leaves the room. This should be done gradually so that the dog can succeed with each step.” **Some trainers refer to this strategy as “stationing” because you teach your dog to hang out at a specific station.** The station can be anything that gives your dog a clear spot where she is comfortable. Some dogs love poofy beds, while others prefer a raised cot or a simple rug or yoga mat. An open crate can also work—and this might be a strategy to gradually introduce crate training for dogs who panic in crates—or even your bed.

You will teach your dog to have a positive association with the station, encouraging her to be in her spot and then allowing that reinforcement history to comfort your dog while you are away. This will take time to train. The steps aren’t to be done in one day.

Step 1: Choose a station. It’s a place that your dog will like and be comfortable on.

Step 2: Calmly reward your dog for interacting with the station. Sniffing, looking at, or stepping on it with a paw all count. Repeat until your dog is intentionally going to the station. If using food or a toy, place the reward on the station each time.

Step 3: Work up to getting all four paws on the station. Her position doesn’t matter initially. Some dogs may stay standing, while others choose to sit or down. Continue to place rewards directly on the station, or pet and praise while your dog is on the mat. Repeat until she is consistently getting on the station.

Step 4: Add distance. Take a few steps away from the station and wait for your dog to go to it. Reward on the mat and repeat, gradually going farther away. You can also add a verbal cue here, such as “place” or “settle.” Say your cue, allow your dog to go to her station, then reward. Work up to being across the room from the station.

Step 5: Add duration. Go back to being right next to the station as you introduce duration. When your dog goes to her station, count a few seconds, then reward if she stays in place (if she does not, try again with a shorter time). Gradually increase the amount of time until she is remaining on the station at least 30 seconds. Her position doesn’t matter, and she is free to change positions.

Step 6: Combine distance and duration. Take a step or two away from the station, send your dog, and wait a few seconds before going to her and rewarding. Repeat, then either step a little farther away or add a few seconds to the pause. Gradually build up to being across the room for at least 30 seconds.

Step 7: Go out of sight. While your dog is on her station, step out of the room so she can’t see you and then immediately come back and quietly praise/reward. If she follows, practice an easier step once or twice and then try again. Gradually build up to being out of sight for at least 30 seconds.

From here you can tailor your progress a variety of ways depending on your needs and your dog’s strengths and preferences. To build confidence about being independent, practice longer stationing intervals while you work on your computer or watch TV. You can give her a chew or food puzzle to provide a longer-lasting reward for being on the station. Some dogs may benefit from being taught to specifically lie down on the station, even teaching the dog to roll over on one hip instead of lying in a position that looks like she’s ready to launch.

You can also combine stationing with other management and treatment strategies. The full process can take some time to train and set good habits but is well worth the effort for fostering self-control and rewarding calmness.

In addition to using stationing for building independence and comfort in being alone, you can practice during meals to prevent begging or during training classes to keep your dog settled while you pay attention to the instructor.

Don't Wait: Surgery for BOAS

This serious, progressive breathing problem can be corrected, but the sooner the better

Brachycephalic breeds are at risk for a progressive, life-threatening disorder called Brachycephalic Obstructive Airway Syndrome, or BOAS. This worsening disorder should not be ignored, especially in an English Bulldog, French Bulldog, Pug, or Boston Terrier.

The solution is surgery, says Dr. Nicole Buote, associate professor of small animal surgery at Cornell University's College of Veterinary Medicine. Dr. Buote prefers laser surgery for these dogs.

Signs of BOAS

Unfortunately, the signs of BOAS are often mistaken as normal for the breed. That's because these signs are common, but they are not normal:

- ▶ Frothing at the nostrils
- ▶ Snoring
- ▶ Snorting
- ▶ Gagging
- ▶ Noisy breathing
- ▶ Disruptive sleep
- ▶ Exercise intolerance
- ▶ Heat intolerance

These signs indicate a disruption of the normal easy passage of air in and out of the body. As the dog pulls harder to



Naturally large tongues on dogs like this Boston Terrier only add to the problem.

move air in, secondary issues are created that make matters worse.

The primary anatomical defects predisposing these dogs to BOAS include:

- ▶ Closed off nostrils (stenotic nares)
- ▶ Crowded tissue in the nasal passages
- ▶ Elongated soft palate

These dogs also tend to have disproportionately large tongues and tiny tracheas, neither of which are helpful.

Secondary issues, which further obstruct air flow, develop over time due to the negative pressure created while the dog tries to pull air past the primary physical obstructions. These include:

- ▶ Nasal passage swelling
- ▶ Everted laryngeal sacculles (laryngeal soft tissue gets sucked into the airway)
- ▶ Enlarged tonsils
- ▶ Laryngeal collapse
- ▶ Tracheal collapse
- ▶ Gastrointestinal problems (gastroesophageal reflux, regurgitation, vomiting, hiatal hernia)

These issues are preventable by correction of the primary anatomical defects. And surgery is the only way to do this.

Why Surgery Is Urgent

It sounds like we're pushing

surgery, but the fact is that the sooner BOAS is identified and surgically corrected, the better and longer the dog lives. A paper in the *Australian Veterinary Journal* concluded that younger dogs do much better post-operatively than older dogs.

As you can imagine, surgery performed in the back of a brachycephalic dog's throat is not simple. Additionally, brachycephalic breeds are high-risk anesthesia patients. As such, choosing an experienced, board-certified veterinary surgeon is the best way to go.

There are different surgical techniques for shortening an elongated soft palate, a procedure called staphylectomy. Successful outcomes using laser surgery depend on the surgeon's skill. While Cornell does offer laser staphylectomy, Dr. Buote is currently the only surgeon with experience using laser for this procedure.

"I have been using a laser for over 15 years and prefer it for a few reasons," says Dr. Buote. "First, there is less bleeding, which makes the procedure faster for me, and there is better visualization."

"Laser surgery also leads to less damage to the salivary glands and less edema (tissue swelling) than scissors," says Dr. Buote, adding that it lessens the potential for certain post-operative complications. A paper published in the *Veterinary Journal* in February 2022 compared a laser versus other techniques and supports Dr. Buote's observations.

"I also like the laser because the various available pen attachments allow me to be very accurate with the tissue I remove," says Dr. Buote. "Some of the other hand-held devices (bipolar sealing devices, harmonic scalpels) can be difficult to get into the back of the throat with these dogs."

Dr. Buote says that, while there is thermal injury to tissue with laser surgery, it rarely causes post-operative problems and the benefits of laser far outweigh the negatives of this inescapable laser after effect.

"Overall," says Dr. Buote, "in



Some BOAS-affected dogs have exercise intolerance, which might result in slower times and shorter play periods.



At this time, Dr. Nicole Buote is the only veterinary surgeon at Cornell with experience using the laser for the BOAS surgery.

experienced hands, the laser allows for quick and precise resection of the soft palate with minimal to no blood loss and no clinically important tissue swelling or complications.”

Bottom Line

If your dog is showing signs of BOAS, contact your veterinarian for a referral to a board-certified surgeon now.

Discuss your dog’s signs with your veterinarian and get a recommendation about what to do. If your brachycephalic dog is deemed a surgical candidate, don’t delay. There are ways to manage the signs of BOAS—keep your dog at a healthy lean weight, always in a cool environment, and avoiding any activities that get him breathing hard—but nothing negates the reality that if your dog has any of the signs of BOAS, the condition will progress.

Untreated BOAS will negatively impact your dog’s quality of life, could become a life-threatening emergency at any moment, and almost certainly shorten your dog’s lifespan. If your veterinarian suggests a surgical consultation for your dog, the time to do it is right away. Nothing good comes from waiting if your dog suffers from BOAS. ■

Lindsay, B, et al. “Brachycephalic airway syndrome: management of post-operative respiratory complications in 248 dogs,” AVJ 2020 February, vol 98, issue 5.

Conte, A., et al. “Comparison of harmonic shears, diode laser, and scissor cutting and suturing for caudal palatoplasty in dogs with brachycephalic obstructive upper airway syndrome,” Vet J. 2022 Feb; 280:105802. doi: 10.1016/j.tvjl.2022.105802

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Researching Effects of Aging

Research in gerontology for both humans and animals is on the rise with mutual benefits

Your dog is going to age, but can we help him age well? Amazing work in a new medical specialty called gerontology—the study of aging—is finding ways to mitigate and treat the inevitable changes that occur as our dogs grows older.

Gerontology

In both human and veterinary medicine, gerontology is the fastest-growing medical specialty. In 2009, recognizing the importance of collaboration between experts in human and animal health, the Centers for Disease Control and Prevention implemented the One Health program, which combines human and canine medical research and insights, recognizing our shared environment.

As both gerontology and the One Health initiative grow, veterinary experts like Natasha Olby, a professor of neurology at the College of Veterinary Medicine at North Carolina State University, are adding to the research.

Canine Studies

It’s well-established that aging humans with hearing loss are at a higher risk for both depression and dementia. With this in mind, Dr. Olby and her researchers looked at aging dogs with hearing loss to evaluate the relationship of cognitive function and hearing loss and its effect on a dog’s quality of life.

The study, published in *Frontiers of Veterinary Science*, found that owners of dogs with hearing loss did perceive a difference in their dogs’ quality of life. The study data showed that hearing loss was associated with the severity of cognitive dysfunction in dogs. The more

severe the hearing loss, the lower the quality of life. The researchers theorized that if hearing loss could be addressed, the progression of cognitive dysfunction in dogs might be slowed, raising the quality of life.

In a similar study in *Scientific Frontiers*, Dr. Olby and her group used the dog’s natural incredible sense of smell to see if it may eventually be used as a measure of canine cognition.

More work needs to be done in both areas, but this type of research may lead to a better understanding of loss of cognition in both humans and dogs.

What This All Means

Neurodegeneration is a frustrating field for veterinary and human medicine. Changes in cognitive and sensory function can be as devastating, if not more so, than other more obvious physical changes, like liver or kidney dysfunction, but far more difficult to understand and to treat.

Mobility issues in aging dogs are usually from arthritis, but dogs can also develop neurodegenerative problems such as degenerative myelopathy, which can mimic Lou Gehrig’s disease.

With veterinary and human medicine researchers working together on overlapping difficulties related to aging, we can learn more in a shorter amount of time.

Gerontology encompasses changes we see as our dogs and we ourselves age and how to mitigate those changes where possible. Treatment for inevitable changes in our older dogs and in ourselves is a lofty goal, but one that will increase quality of life for all mammals. ■



Search-and-rescue dogs like this Belgian Malinois use their keen olfactory sense to find missing people, even those trapped in rubble. Experts are looking at dogs to see if a decrease in sense of smell correlates with a loss of cognition.

Dog Dislikes a Family Member

To change your dog's outlook, start with all good things seeming to come from your son-in-law

QI live with my daughter, son-in-law, and grandkids. My dog, a 30-lb rescue terrier mix, seems to hate my son-in-law. When she hears his voice, she growls and/or barks. When she sees him, she is like a vicious mongrel snarling and barking like she wants to rip his throat out. She will let him pet her sometimes if I am there, but if he's in the room with us, she will get behind me. Sometimes she shakes uncontrollably.

I've tried everything I can think of to help the situation. If I am there when she hears or sees him, I calm her. If she is calm when she hears or sees him, I treat her. She's jumped against the glass door and windows like she's trying to get at him. Sometimes after she does that she puts herself in time out and goes into the other dog's crate.

I rescued her when she was about 5 months old. She has never liked my son-in-law, even before I moved in with them.

She also gets hypervigilant when anyone runs or moves quickly and exhibits some of the same behaviors, but not as aggressive as she does with him. I don't know what to do.

AThe situation you describe, aggressive and fearful behavior toward a male but not a female in the household, is all too common. The reason is likely those first five months of your dog's life. It may be that she was mistreated by a man, but it is equally likely that she was simply not exposed to men during that critical, sensitive socialization period between 7 and 14 weeks of age when a dog should be in his "forever" home and learning.

Unfortunately, that is almost never true for rescue dogs. Most shelter personnel and foster owners are women, so your dog was probably socialized



Spending fun time together can change a dog's concerns from fear to delight.

exclusively to women. Men are also more threatening to dogs. They are taller, heavier, have loud low voices, and sometimes even facial hair, all of which are intimidating to dogs.

You can take steps to improve the situation, however. To start, you and your daughter must ignore the dog completely. No talking, no petting, no playing, no walks, and especially, no feeding for a week or so.

Instead, all these good things will come from your son-in-law, including meals, treats, walks on leash, and play. He can sit beside the crate and drop a bit of freeze-dried liver into the crate every five minutes or so to start, so the dog begins to accept his presence.

If there is no progress, you may need to ask your veterinarian to prescribe a medication to lower the dog's fear and/or reach out to local veterinary behaviorist for help. ■

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Clearing Sofie's Red Paws

Dermatologist William Miller, VMD, responds

QSofie, my Havanese/Miniature Poodle mix, has what appears to be an allergy between the pads of her feet. After walking in the grass, she comes into the house and licks her feet. I have tried using a damp wipe each time we come in, as well as a vinegar and water spray. Our veterinarian gave us a fungus foam to try, but this only made it worse. In January, she received an immunotherapy injection. I now think it's into the nail bed. I don't know what else to do.

AUnfortunately, there is no easy answer for your dog's problem. The skin between the pads is exposed to many different irritating and/or allergenic agents while the dog walks. Despite your efforts to clean the skin, you won't be able to remove all the irritants or allergens. If the dog is walked multiple times each day, there can be a significant amount of material left after your cleaning. The licking irritates the skin and makes infection with bacteria and/or yeast much more likely. Once infected, the licking will worsen and a very vicious cycle is set up.

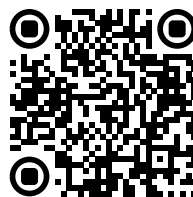
If your dog's problem is just restricted to the feet, a temporary solution could be using boots when she goes out. For this to be effective, any infection must be resolved and the inflammation should be toned down with a short course of an anti-inflammatory agent.

If the dog returns to licking when she returns home and the boots are removed, she is likely to be allergic to environmental allergens, like pollens, which are entering her body at sites away from her feet. At this point, a consultation with a veterinary dermatologist would be your best course of action. ■



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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