

Canine Anxiety

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What are the best approaches to consider when faced with an anxious canine patient?

Anxious and fearful behaviors are common in canine patients and often manifest as separation anxiety, storm and noise phobia, or aggression (directed at humans and/or other dogs). Short-term stress response is healthy and necessary, allowing dogs to be alert and take action (eg, retreating from a stranger, scary sound, another dog). However, when the response is prolonged (eg, a season-long storm phobia or panic every time an owner leaves), physical and emotional pathologic conditions may ensue, potentially shortening the dog's lifespan.¹

Manifestations of chronic stress include immunosuppressive effects (subjecting patients to increased likelihood of recurrent infections), compulsions, and altered blood flow to organs (resulting in susceptibility to further ailments [eg, gastric ulcers]).^{2,3}

Recognizing Anxiety

It is incumbent on the clinician to determine what the patient is trying to communicate by watching the dog's *behavior*. Anxiety and/or fear are presumed to exist when the animal exhibits specific behaviors (see **Signs of Canine Anxiety & Fear**).^{4,5}

Treatment

Regardless of the anxiety-rooted problem, behavior modification via avoidance, desensitization, counter-conditioning, and response substitution is the primary treatment approach.

Signs of Canine Anxiety & Fear⁴

- Vigilance
- Looking away (from threat)
- Hiding
- Ears back
- Pacing
- Inappropriate elimination
- Panting
- Drooling
- Crying or whining
- Shaking
- Tail tucking
- Lip licking
- Anorexia
- Yawning

Avoidance

Avoidance of an anxiety-provoking trigger is important, especially in the early stages of treatment, but is often difficult to achieve. For example, avoiding storms if a phobic patient lives in a storm-prone area or avoiding other dogs if a dog-reactive patient lives in a multifamily complex (eg, apartment, condominium) that necessitates eliminating in places where other dogs may be present can be impossible.

Discussing options with individual caretakers is important. For a storm-phobic dog, decreasing the visual and auditory stimuli may help: closing the blinds, placing the dog in a room with no

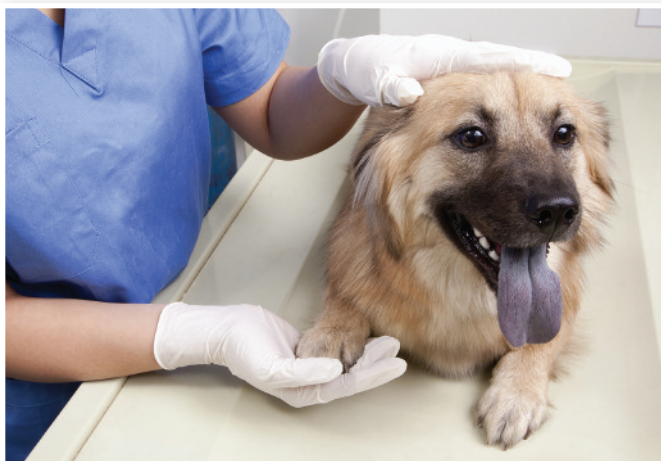
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windows, using ear plugs, having background noise (eg, fan, music). For a dog-reactive dog, taking the dog outdoors at quiet times of the day and/or providing pads, artificial turf, or a patch of sod indoors might be helpful.

These solutions need not be long-term but can provide clients and patients with a break from daily anxiety-provoking stimuli.

Desensitization

Desensitization involves minimizing the intensity of an anxiety-eliciting stimulus to a level that the fear response is not incited (eg, reducing volume, increasing distance, changing environment).⁶ For example, desensitization for a dog that fears strangers begins with the stranger being close enough that the dog knows the individual is there, but far enough away so the dog does not hide behind its owner with ears back and tail down. The stimulus is slowly increased by decreasing the distance between the dog and stranger, ideally with the dog approaching the stranger. A dog approached by a stranger is more likely to feel trapped and anxious, whereas allowing the dog to approach the stranger provides a comfortable opportunity to retreat, if necessary. With desensitization, the dog eventually learns to be comfortable in the presence of a stranger.



Counterconditioning

Counterconditioning involves consistent and repeated pairing of a stimulus that evokes an unpleasant response with a positive stimulus until a positive association is made.⁶ Counterconditioning can be coupled with desensitization when a dog is relaxed but can also be attempted when the patient is still somewhat anxious. In either case, the goal is for the dog to have a positive experience (eg, storm-phobic dog associating a treat with thunder, dog-reactive patient associating a tennis ball with an approaching dog).

The Threat of Flooding

Flooding is the process of exposing an anxious dog to the frightening stimulus at maximum intensity until the dog stops reacting anxiously.

Although the objective may be to habituate a dog to the stimulus, resulting in gradual lessening of the unwanted response through repeated exposure, flooding can actually increase anxiety.⁶ Once the flooding session starts, the stimulus must be continued until the fear response ceases, regardless of how long it takes. There is a danger of having the patient directly harm itself, others, or its environment or having a stress response severe enough to compromise the patient's health and welfare. Flooding can result in learned helplessness if all efforts to escape the stimulus have been thwarted.

Response Substitution

Similar to counterconditioning, response substitution involves replacing an undesirable response with a desirable one.⁶ For example, instead of displaying behavior XY (eg, hear thunder, hide under the desk), the behavior becomes XQ (eg, hear thunder, look for a treat).

The primary challenge with counterconditioning and response substitution is that some owners perceive the dog as being rewarded for undesirable behavior. It is important to explain that the dog is learning a different response; the patient will not hide and shake if it is eating a treat or bark and lunge if it focuses on a tennis ball.

Medical Therapy

Anxiolytic medications can be useful in treating fear-based behaviors. The short-term, as-needed use of benzodiazepine (eg, alprazolam, diazepam) can reduce anxiety while increasing appetite, potentially making counterconditioning and response substitution more successful.

For dogs that are generally anxious (ie, in a number of situations and/or during most of the day), a maintenance medication (eg, fluoxetine, clomipramine, buspirone) may be indicated.⁷ Typically, these medications can be used alone or combined with a rapid, short-acting medication, such as benzodiazepine.⁸

For dogs that are more contextually anxious or fearful (eg, during storms, fireworks, family [children] visits), short-acting benzodiazepines could be used alone. Trazodone, an antidepressant believed to inhibit serotonin uptake, also can be effective alone

or in combination with a selective serotonin reuptake inhibitor (SSRI), tricyclic antidepressant (TCA), or benzodiazepine.⁹

Alternative Therapies

Dog-appeasing pheromone (Adaptil, ceva.us) is available as a diffuser, collar, and spray and can be beneficial when treating separation anxiety, firework fear, and car travel.⁹⁻¹⁵

Essential oil of lavender—burning to volatilize it, applying to a bandana or bedding—can help decrease anxiety and can be particularly useful for anxiety during car rides.¹⁶

Tablets with a blend of *Magnolia officinalis* and *Phellodendron amurense* extracts (Harmonease, harmoneasevet.com) can help some dogs, especially during thunderstorms.¹⁷

The Storm Defender Cape (stormdefender.com), Thundershirt (thundershirt.com), and Anxiety Wrap (anxietywrap.com) can also help lessen storm and separation anxiety in dogs.^{18,19} ■ **cb**

See Aids & Resources, back page, for references & suggested reading.

TX at a Glance

- Avoid the anxiety and/or fear-provoking stimulus, if possible; give owners suggestions on how to do this.
- Start the dog on appropriate medication(s).
 - If diagnosis of anxiety and/or fear is achieved, patient health and welfare are at stake and there is no need to wait.
- Implement a behavior modification plan consisting of desensitization, counterconditioning, and response substitution.
 - The goal is to give the dog the tools necessary to cope and learn.
- Consider trying alternative treatment modalities as needed and/or as applicable, either alone or in conjunction with other treatments.

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GI EXCHANGE:

Nutritional management of stress diarrhea

How does stress manifest physically in dogs and cats?

The intestine is home to thousands of species of bacteria, collectively referred to as the gastrointestinal (GI) microflora. A properly balanced GI microflora aids in the digestion and absorption of nutrients, and enhances the immune system. Stressful situations and environments — in addition to factors such as diet change and long-term antibiotic use — can upset this balance, causing dysbiosis. This can result in diarrhea and may predispose the animal to other disease.



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What steps can be taken to help reduce the risk of — and nutritionally manage — stress diarrhea in dogs and cats?

Administering a probiotic supplement such as Purina Veterinary Diets® FortiFlora® Canine and Feline Nutritional Supplements prior to travel, moving, boarding, kenneling, adoption or other stressful situations can help create a favorable environment for beneficial bacteria in the GI tract, thus reducing the risk of stress diarrhea. Increasing levels of beneficial bacteria can also help reduce the levels of pathogenic bacteria that have proliferated during stressful periods. A proprietary microencapsulation process helps preserve and protect microorganisms during shipping and storage. According to a recent study FortiFlora is one of only a few products shown to provide the guaranteed level of live microorganisms!

What are the benefits of FortiFlora for the nutritional management of stress diarrhea?

FortiFlora contains the probiotic *Enterococcus faecium* SF68, which studies have shown promotes intestinal health and balance as well as a strong immune system in dogs and cats.^{2,3} FortiFlora also contains antioxidants including beta-carotene and vitamins C and E to reduce the oxidative stress associated with stress diarrhea. In addition, FortiFlora has been shown to have excellent palatability and to be readily accepted by dogs and cats.

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2. Gore A and Reynolds A. Effects of *Enterococcus faecium* SF68 on stress diarrhea in Alaskan sled dogs. Nestlé Purina PetCare Research, St. Louis MO. ACVIM 2012 abstract presentation.
3. Bybee SN, Scorza AV, and Lappin MR. Effect of the Probiotic *Enterococcus faecium* SF68 on Presence of Diarrhea in Cats and Dogs Housed in an Animal Shelter. *J Vet Intern Med* 2011;25:856-860.

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