

Thunderstorms and Noise Phobia in Dogs

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Thunderstorm and Noise Phobias are defined as a persistent fear or anxiety response that is out of proportion to the stimulus itself (sudden noise, wind, rain, thunder, lightening, etc.). Fear is the response that results from direct confrontation with a perceived threat while anxiety results from the anticipation of that perceived threat.

Symptoms often associated with phobic responses include many autonomic nervous system associated responses including increased heart rate, respiratory rate, and dilated pupils. In addition, we can see increased vocalization, pacing, panting, hiding, attempts to escape, seeking close attention from the owner(s), aggression if interfered with and elimination or destructive behavior.

Symptoms may occur as a result of a sudden exposure to a storm/noise or via gradual exposure over time to these events. Predictive events which may signal the onset of a storm to the animal can include thunder, lightening, change in barometric pressure, rain, wind, or darkening skies.

Co-morbidity may exist such that dogs showing signs of Thunderstorm/Noise Phobia and also displaying Separation Anxiety so it is important to evaluate patients for the co-existence of these behaviors. Be particularly aware of the possibility of worsening of the response to storms and noises at times when the patient is alone if Separation Anxiety is also present. Overall K, Dunham AE, Frank D, J Am Vet Med Assoc. 2001 Aug 15; 219(4):467-73

Phobic and anxious behaviors are suspected to be related to alterations in neurotransmitter levels (particularly serotonin) and how this may affect the functioning of areas of the brain related to emotionality, such as the limbic system. When evaluating the behaviors in question consider a behavioral differential diagnosis listing. For the symptoms described for phobic responses, other possible behavioral etiologies include separation anxiety, cognitive dysfunction, territorial behavior, Housesoiling, and play based behavior. A medical based differential list can include ear or skin abnormalities, seizure disorders, intestinal disturbances and hypothyroidism.

Diagnosis (assuming there are no medical issues present) is then based on typical history of the behavior occurring in connection with the onset of storms, activity during the storm, delayed recovery following the storm and possible co-existing anxiety based conditions.

Treatment centers first on determining a reward system (food, play, attention) that is appropriate for the individual animal, using this system in training relaxation in non-distracting situations then teaching this relaxation protocol in "safe locations" where the pet seems most comfortable during a storm, working on desensitization to storm cues (such as using storm or noise audio CDs) during off season for storms (to avoid unintended exposures to the stimuli), counter conditioning by engaging the pet in a pleasurable experience only during storm onset, and being certain not to punish or comfort the pet during phobic episodes.

Some other options for managing storms can include using a head collar with an indoor drag leash to enable the owner to interrupt and redirect anxious behavior to more appropriate activities (training for example). The use of pheromone therapy such as DAP (Dog Appeasing Pheromone) diffusers may also be beneficial. The use of devices such as anxiety wraps or the Storm Defender cape have been praised by some as being helpful. Homeopathic or herbal remedies have also been tried by some and occasionally seem to provide some benefit.

The use of anti-anxiety medications is often the backbone of successful management of thunderstorm and noise phobia. The goal of therapy is to reduce the apprehension that the animal experiences during unpredictable events such as storms and noise exposure. In this way we attempt to achieve drug desensitization such that the animal learns to accept these stimuli with experiencing the physiologic aftermath which can serve to reinforce the fear and anxiety. To this end, medication is dosed both chronically (given regardless of predicted storms events) and acutely (given as an add-on drug when these events are predicted). Chronically dosed drugs are often meant to increase serotonin levels while acutely dosed medications are more short acting and function to further manipulate the animal's emotional state.

The two most commonly used drugs for chronic dosing are fluoxetine (0.5-2.0 mg/kg sid) and Clomipramine (1-4 mg/kg bid). You can start in the middle of the dosage range, and adjust the dose upwards or downwards depending on the patient's response or you can start at the low end of the range and increase as needed to achieve the desirable response. For fluoxetine adjust the dose about every 4-6 weeks while Clomipramine (due to its shorter half life) can be adjusted about every 2-3 weeks. Common side effects include sedation, anorexia, hepatic disturbances or increased anxious behavior. With Clomipramine, there is also a concern about lowering the seizure threshold for those patients with previous history of seizures. Clomipramine can also lower TT4 levels and can result in urine retention as well as increase intraocular pressure.

Acute dosing medications commonly include the benzodiazepines (diazepam, alprazolam, lorazepam and clonazepam), Clonidine (an alpha 2 agonist) and trazodone (a serotonin receptor antagonist and weak reuptake inhibitor). Side effects of these medications include sedation and potentially an increase in aggression. Clonidine is dosed at 0.01-0.05 mg/kg prn or up to bid. The benzodiazepines (BZD) have varying dose ranges and are often used to effect. The development of idiosyncratic hyperactivity is

possible with the BZDs and can be managed by a dose adjustment or commonly by changing to an alternate BZD. Trazodone is dosed at 1-3 mg/kg prn or up to tid.