



The Pet Professional Guild
41-Dog-Train (413-648-7246)

Canine Thunder Phobia; The Bunker Protocol

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Thunder storm season has arrived. For dog owners who live with a thunder phobic pooch, it's a time of year that can be particularly trying; for the dog, it's downright awful.

I am one of those dog owners. At one time, I loved thunderstorms. Three years ago, I adopted my rescue, Pepper. Since then, my love for storms has waned and summers have become an emotional roller coaster ride. To a great extent, my life has been controlled by the whim of the weather.

Beginning with the arrival of Spring and lasting through early Fall, I am acutely aware of the weather forecast for each upcoming week. I react with an elevated heart rate each time I see a weather icon depicting clouds, rain and a lightning bolt.

In spite of the fact that every storm provides an opportunity for me to work on behavior modification with my dog and even though her t-storm phobia has become more manageable, perhaps because of that work, I don't welcome the arrival of storms.

The experience for the average dog owner, who is not a trainer, is surely considerably worse.

The following article focuses on the t-storm management plan I developed for Pepper. I don't represent this plan as anything but what it is; a management plan. Additionally, I don't suggest that what I've created is a cure-all or that the plan is even scientifically valid. I don't characterize this as a new breakthrough to an old, intractable problem.

But I do represent this as a procedure that seemingly has provided me with sufficient upside that I can work on counter conditioning my dog *during* storms. Prior to creating the plan, this wasn't possible.

At minimum, if I can prevent my dog's phobia from tracking the typical curve, that is, worsening with age, I'll be thrilled.

I am hopeful that sharing this plan will spark thought and the exchange of ideas and maybe even serve as a catalyst for the creation of similar, more effective plans. All said and done, if this article helps to alleviate t-storm phobia in even one dog, I'll consider it a win.

Understanding the distinction between fears and phobias is important when examining canine reactivity to thunderstorms. Fear is a natural, adaptive behavior which helps animals to avoid dangerous situations and threats. Conversely, phobias are characterized by excessive and exaggerated responses that are not in direct proportion to the perceived threat. Typically, these responses are debilitating and interfere with an animal's ability to function normally.

The path to a positive outcome through behavior modification of any phobia is extremely challenging. The path (if navigable at all) to successful behavior modification of canine thunder phobia is perhaps the most difficult of all.

The onset for Canine thunder phobia generally occurs prior to the dog reaching 1 year of age. Often, the disorder worsens between the ages of 5-9. The combination of nature/nurture plays a role in the development of the phobia. From a genetic perspective, certain breeds are overrepresented among dogs afflicted with T-storm phobia (herding dogs such as Collies and GSD's as well as hounds, such as Beagles and Basset Hounds are more likely to develop the phobia. The malady is more common in sporting and working dogs*) Family genetics also play a very definite roll in the development of the disorder. As with other phobias, offspring of phobic dogs are more likely to be genetically predisposed to the development of the same or similar phobias that distressed the parent dogs.

*July/August 2001 issue of the Journal of the American Animal Hospital Association

While thunder phobia could be a consequence of prolonged exposure to storms, it is equally possible that as little as one traumatic exposure to the power of nature, expressed through thunder, could create a phobic dog. Additionally, Dr Nicholas Dodman surmises...*direct learning (personal experience) and observational learning (witnessing another fearful dog or person) may be involved and the negative experience so generated is enhanced when paired with (heralded by) a formerly neutral stimulus (e.g. flashing light/lightning).* * Veterinary Practice News, August 18, 2011

As t-storm phobia is extremely resistant to counter conditioning, management of the dog's reactivity is most often utilized instead. Body wraps, static guard capes, DAP, prescription drugs, OTC drugs and other homeopathic remedies are the usual tools of choice. Multi modal approaches seem to yield the best results yet, even then, outcomes are mixed and uneven.

Unlike other easily mimicked auditory stimuli that cause phobic responses in dogs (such as fireworks, trucks, landscaping equipment, etc.) thunder phobia differs in that the afflicted dog often reacts to a suite of conditioned stimuli that precede and serve as predictors of the impending storm. Changes in ozone levels, falling barometric pressure, static electricity, wind patterns, and rain are a few examples of conditioned stimuli to which the thunder phobic dog might respond. These triggers are impossible, or nearly impossible, to recreate for the purpose of counter conditioning.

Additionally, during storms the phobic dog experiences a physiological reaction to storm related stimuli that makes counter conditioning exceedingly difficult. The dog's initial assessment of the storm predicting stimuli happens very quickly and reactivity rapidly ratchets up to full strength as sensory input (ozone, barometric pressure, etc) is received. In other words, thunder phobic dogs react; they don't think. Once this process is initiated, hormones release into the system which prepare the dog for an energetic reaction, more commonly referred to as "fight or flight". (Note: as part of her work toward her doctorate in bio behavioral health, Dr. Nancy Dreschel gauged levels of cortisol, a hormone linked to stress reactivity in humans, in t-storm phobic dogs by measuring saliva samples taken from phobic dogs in response to the playing of a t-storm sound recording. Cortisol levels shot up 207% from the initial baseline measurement.

<http://veterinarynews.dvm360.com/dvm/article/articleDetail.jsp?id=310055>) Clearly, this state is not conducive to counter conditioning protocols or learning in general (another reason why trainers should avoid using stress generating, aversive methods when training? Note: I utilize thunder storm soundtrack CD's in my puppy socialization program with the hope that creating a positive conditioned emotional response (+CER) to the sound of thunder will result in the stimuli that predict storms becoming positive conditioned stimuli as well. Perhaps if we can condition a puppy prior to fear setting in, thunder can be conditioned like any other noise. Whether or not this helps, I can't be sure. But I see no harm in doing so. I also coach my puppy owners to have high value treats at the ready during thunder storms so that we can create a new law of nature, thunder claps = wonderful food. Whether or not we can prevent t-storm phobia by playing nature vs. nature is debatable. But again, I see no harm in trying).

The Bunker Protocol

My initial goal with Pepper was to prevent/offset the ramping up of fear so that her physical/emotional/physiological state, while not optimal, wouldn't be entirely counter-productive to counter conditioning. To that end, I decided to create a protocol that would quickly, powerfully, and positively engage all of her senses. My hope was that once she

developed a +CER to the protocol, when presented during a storm, it might help to counter balance her t-storm fear before it became a full blown phobic episode.

My tools:

- a hair scrunchie
- a lavender scented candle
- white noise machine
- CD of soft music
- VERY high value food

We began by practicing the plan only during nice weather. In my office (the windows were fitted with blackout shades to prevent her from seeing lightning flashes when we went “live” with the plan) the candle was lit, music played and the white noise machine was switched on. Outside the office, I placed the scrunchie high up on Pepper’s leg, where her leg meets her body. I called out "bunker" in a happy voice and ran to the office with her. Once there, I cued her to go to her bed. While on her bed, she was massaged and continually provided with treats. After 5-7 minutes, we stopped and returned to regular life. (Note: the purpose of the scrunchie was to engage her body in a very unique way that predicted the wonderful stuff that was coming. I could have used any one of a number of items but the scrunchie seemed perfect for the procedure. I used the lavender candle because lavender is a calming scent; white noise would serve to block out sound; soft music has been shown to have a calming effect. My goal was to engage all senses and to create a + CER to the word “Bunker”).

After a dozen repetitions of the plan, the mere mention of the word “bunker” would induce a happy dance that rivalled any that Snoopy ever performed. We were ready to go live.

At the onset of the next storm, with the first sign of reactivity on her part, I immediately prepared the room, placed the scrunchie on her leg, called out “bunker” and went to the office with her. She was still afraid (panting, salivating, trembling) and was not interested in food but she wasn’t performing any of the old behaviors, such as, clawing at the baseboards, digging at the carpet, running through the house, pacing frantically, etc. We rode the storm out on her bed; a significant improvement.

After approximately eight weeks and several storms, I went to bed one night aware of early morning storms in the forecast. I had prepared for the storm by assembling all the “Bunker” items. That night, I was awakened by Pepper tapping on my shoulder with her paw as if to say, “Hey, storm! Bunker. Let’s go.” When I arose from bed, she ran ahead of me to the office. There was no need to call out “Bunker”. Had the storm become a CS for a new CR (the bunker routine)? If so, this was another noteworthy occurrence.

I continued working the Bunker protocol with Pepper with some fascinating results.

She will now accept food during thunder storms which presents me with the opportunity to counter condition during real storms. Rather than only linking food presentation with stimuli that *I* perceive (thunder and lightning) I do so each time *she* shows any sign of fear. I fully believe that she is responding to more than I can perceive and I “pay” accordingly.

She is now able to endure storms outside of my office in a few safe zones (selected by her) we utilize. On occasion, we practice the Bunker routine but we haven’t used it during a live storm in a while.

I have noticed she triggers a bit earlier and to more subtle weather changes but her reaction to storms isn’t remotely as powerful as it once was. Without having any accurate ways to measure, (other than her willingness to accept food and a reduction in phobic behaviour, which are both significant developments) I would classify her current reaction to storms as being fearful but not phobic. That she now accepts food during storms provides me with a chance to counter condition her reactivity/fear. And therein lies my hope for the future.

Perhaps Pepper’s improvement is coincidental and is linked to something other than the Bunker protocol. Perhaps what I’m seeing as improvement, isn’t. There are far too many variables for me to directly connect any behavioural changes to the Bunker routine.

But if nothing else, the protocol has provided me with a reason to remain inspired and creative in the hopes that we can turn her phobia into a thing of the past.

The specifics of the Bunker protocol aren’t important. The scrunchie could be replaced with a thunder shirt; the lavender scent could be replaced with a DAP diffuser or spray (so long as it is only used during the protocol). The particulars are less important than the goal; creating a +CER that engages all senses which can perhaps be used to counterbalance the ramping up of fear. A combination of the protocol as well as meds or homeopathic remedies might produce the best results. Above all, it’s important to be imaginative.

It is often stated that t-storm phobia in dogs is an intractable malady with next to no chance of being altered; perhaps so.

Hopefully, for the afflicted dogs and their distressed owners, we will be equally obstinate in our dedication and desire to overcome, or at least abate, the impact of thunder storm reactivity in our canine friends.

