

Fear of Thunderstorms and Fireworks

Why are dogs afraid of thunderstorms and fireworks?

- Many dogs are afraid of loud, sudden, unpredictable noises, not just thunderstorms and fireworks. If a dog is noise-sensitive, it's very likely that these noises will be frightening to him.
- Wild animals react to thunderstorms fearfully. This is appropriate, because storms can be dangerous. If you can't take cover from a storm, you risk being struck by lightning, drowning in a flash flood, or being injured by falling trees or flying debris. Seen from this perspective, fearful behavior during thunderstorms is not really abnormal at all. The problem is that modern pet dogs are, for the most part, shielded from the real dangers of storms, but they may create danger for themselves by their reactions to storms.
- Occasionally, storms cause real damage to the dog's environment: trees fall on houses, lightning strikes, power goes out, flooding occurs. These real experiences usually worsen fears, or cause fears in dogs who weren't afraid of storms before.
- Fireworks have many of the features of thunderstorms, including various explosions and other strange noises, and flashes of light. It's not surprising that many dogs are just as afraid of fireworks as they are of thunderstorms. Smaller firecrackers set off by neighbors are just as problematic, since they are close and completely unpredictable.
- Whether because of years of frightening experience or decreased tolerance, storm fear often appears in adult dogs, and may even appear for the first time in senior dogs.

What are the signs of thunderstorm fear?

The behavioral signs of thunderstorm fear often begin before a storm arrives. Dogs who are fearful of storms look for signs like increasing wind, low barometric pressure (muggy, humid days), and darkening skies.

- Panting; pacing; whining; salivating; trembling; urination and defecation (including diarrhea) in the house; digging and clawing at floors and walls; chewing household objects, woodwork or walls; attempts to hide or escape (which may include digging and chewing); running away if escape occurs; attempts to stay near a family member, are all signs of thunderstorm fear.
- Some dogs exhibit redirected aggression to other household dogs as a result of their fear. This can result in dog fights with injury, as the fearful dog attacks another dog in the household. The dog who is the target of the aggression may be one with whom the fearful dog has conflict even without the stress of a storm. Vigilance is required to prevent injury, and the fearful dog will need to be separated from the target dog.
- There is a danger in multi-dog households that another dog will attack the dog behaving fearfully. This is not an attempt to "correct" the behavior; it is an emotional response to the behaviorally agitated state of the fearful dog. This same situation occurs when other household

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dogs attack an epileptic dog during a seizure. Again, vigilance is required to prevent injury, and the fearful dog will need to be separated from the other dogs in the household.

- Aggression that occurs during storms can worsen conflict that occurs during normal daily life.
- Unfortunately, some dogs who are afraid of storms will eventually generalize their fear of thunderstorms to any and all rain or wind events. Clear, windy days, and gentle rain will then cause the same fear and panic as thunderstorms do.
- These dogs may require, at least for a time, management with appropriate antianxiety medication daily even in the absence of storms (see below).

What options are there for behavioral management of thunderstorm fear?

First, it's important to remember that fear responses are not voluntary; that is, a dog doesn't decide to feel and exhibit fear of storms. The amygdala, a part of the brain which processes both negative and positive emotions, is a part of the central nervous system that is not under voluntary control.

Remembering the difference between operant conditioning and classical conditioning is important here. Operant conditioning is the training type of conditioning, and involves "if:then". If I say sit, and you put your rear end on the ground, then I will give you a treat. Classical conditioning is the "Pavlov's dog" type of conditioning. Bell rings, indicating that people are entering the lab to feed, dogs begin to salivate at the sound of the bell, which had no association with feeding and therefore salivating until the dogs learned that connection over many repetitions. Fear or eagerness in certain situations is learned by classical conditioning, not operant conditioning. They do not involve voluntary responses, but involuntary emotional responses the dog can't control.

Because fear is not an operantly conditioned behavior, it can neither be effectively punished or rewarded. The goal of managing storm fear behaviorally is to change the dog's emotional state from frightened and distressed to neutral or even content. Though limited, there are a few options for addressing fear of thunderstorms behaviorally.

- First, do not ignore your dog during storms. This advice used to be given because it was believed that attention during storms would reward the fearful behavior. As above, this is simply false. Ignoring a fearful, panicky dog deprives him of whatever comfort and psychological support you can give him. It also leaves him without any information about what he should be doing instead.
 - **NEVER PUNISH A DOG BEHAVING FEARFULLY!** Punishing a dog by yelling, holding him down, squirting him with water, jerking his collar or anything else aversive, may temporarily stop some behaviors like pacing, digging and whining. However, punishment only *inhibits* behavior; it does not calm. Never use a shock collar or even a citronella collar to stop fearful behavior during storms.
 - Inhibition and calm may look somewhat similar (absence of agitated behavior), but calm is an absence of stress and inhibition is a very stressful state.

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- Punishment's undesirable effects include: adding to the stress of an already badly stressed dog; adding to his fear of storms as he anticipates the punishment he now associates with the storms; decreasing his trust in you, and therefore the possibility that you will be able to calm him during storms.
- It may be helpful with puppies and young dogs to try to do pleasant things with them during storms in an effort to prevent fear from developing. This includes having a supply of things they really love to chew, and providing these special things during storms. These can include food toys stuffed with really delicious food or marrow bones in the freezer, and special chewies like bully sticks or pigs' ears. These things are not reserved for storms, which could make them become associated only with storms and therefore undesirable. But they are provided when a storm starts.
 - If possible, get your dog started on one of these items as quickly as possible before the storm is really raging, in hope that he will be less attentive to and sensitive to the noise and lightning.
- Some dogs are able to direct their anxiety to destroying "sacrifice items", such as cardboard boxes or paper items like old phone books. This destructive behavior can function as a way to displace the dog's anxiety onto a pleasurable activity. This is not an option for dogs who would ingest the items, however.
- If there is an activity your dog can't get enough of, that is something to do during storms. This can include playing fetch, chase games, even cuddling and petting, or holding the dog firmly next to you if that comforts him.
- There is some evidence that some dogs will respond to pheromone devices, such as a DAP, Adaptil or NurtureCalm collar, though some dogs do not respond at all. Some of these products are also available in a plug-in diffuser, which could be tried in the safe haven.
 - Aromatherapy is sometimes recommended for storm fear, though there is no good evidence that it is effective. Most essential oils are toxic to cats, so caution is necessary in households with cats.
 - There is no good evidence that Bach flower essences and homeopathic calming preparations are helpful for true storm fear.
- When storms occur at night, some dogs can be comforted by being allowed in bed with you. Again, this is not going to reward or encourage his fear, but it may be comforting enough that you can both get some sleep.
- If you are afraid of storms, or if the storm is a particularly bad one and you are frightened yourself, try not to act obviously afraid. Dogs are very good at reading our behavior, and if our emotional state is distressed, this will add to their distress.
- If the fearful dog is an aggressor or target of aggression with other dogs in the household, he will need to be separated from them during storms.
 - This may mean that he must be elsewhere (day care, with you, in someone else's home) on days when storms are likely.
 - It's unlikely that you will be able to separate the dogs by crating the fearful dog, because of the chance that he will panic in the crate and injure himself trying to escape.

What options are there for environmental management of thunderstorm fear?

Some dogs respond well to having a “safe haven” to go to where they can hide and be reasonably secure and comfortable. This can be a room, a large closet, or a basement. Some dogs prefer a bathroom, especially the bathtub or shower. It’s important to teach the dog to go to the safe haven on cue. The safe haven should always be available to the dog, in case a storm occurs when he’s alone at home.

- It may be helpful to have blackout shades in this room to minimize the effect of lightning.
- Having a light on in the room may also help to minimize the visual impact of the lightning flashes.
- Competing sounds, like a radio or a white noise machine, may be helpful, but loud thunder can’t be masked by any ordinary sound.
- Some dogs may do best if they can hide under a bed during a storm.
- Some dogs do well in covered crates. In this case, though, it’s important to make sure they don’t overheat in a crate without ventilation in warm weather.
- Dogs are probably attracted to bathtubs and showers by the fact that bathrooms are often somewhat sound insulated, and bathtubs and showers even more so.
 - There is no truth to the idea that dogs seek out bathtubs and showers because the plumbing grounds them, offering protection from static electricity. During humid weather and rain, water-saturated air becomes a conductor of electricity, preventing static electricity from building up. This conductivity is the reason why a car with an electrical system problem won’t start on wet and humid days. The opposite is true in dry environments, which is why we often get static shocks in the winter when the heat is on and the atmosphere in our homes is very dry.

Dogs who are aggressive or targets of aggression with other household dogs will need to be separated from them during storms. This can make it more complicated to find an appropriate safe haven for the fearful dog.

Some dogs seem comforted by wearing a Thundershirt (which has a money back guarantee) or an Anxiety Wrap. Others find these kinds of apparel distressing, and they shouldn’t be made to wear them.

- Any dog wearing any sort of clothing needs to be carefully monitored so that his temperature does not rise, especially in his agitated state during a storm. Although dogs do regulate their body temperature mainly through panting, as stated on the Thundershirt web site, anything that insulates their body makes that job harder. In other words, the simple fact that clothing doesn’t interfere with the dog’s ability to pant, doesn’t mean it is perfectly safe. Particularly if there is no air conditioning, it’s critical to make sure the dog isn’t overheating, which can happen quickly with an agitated, frightened animal.

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- It may be necessary to insure that your dog is not alone during a storm. This may mean day care or having someone stay home with the dog on days when there is at least 50% chance of storms.
- Forcing a dog to stay behind a closed door or gate, or in a kennel or crate, can be very dangerous. Attempts to escape can cause injury and sometimes death, not to mention property damage.

What about medication?

- For most dogs with moderate or severe storm phobia, antianxiety medication is essential to manage the dog safely. Panicky dogs can damage homes, injuring themselves in the process. Some dogs will jump through screens or even windows in their fright. They may be injured doing this, and, if they run away, they may be hit by vehicles.
 - Because of the very fact that storm fear is not abnormal, it is usually very difficult to manage these dogs without antianxiety medication.
- The only person legally permitted to prescribe medication is a veterinarian.
- It may be necessary for someone to come in and give the dog his medication if you are unable to do so because of work or other absence. Each of the drugs has its own timing requirements, based on the time required for it to take effect, and how long the effect lasts.
- Dogs taking doses of medications likely to cause ataxia (balance problems) must be protected from falling down steps or other accidents.
- Finding the right doses of the right medications for individual dogs can be difficult and frustrating. Having the help of a veterinary behaviorist who has a lot of experience in this field may be crucial. Most veterinary behaviorists would be willing to consult with your veterinarian about this.

What about desensitization to storms?

Unfortunately, there is no good evidence to support the idea that dogs can be desensitized to storms. This is probably because it is simply impossible to replicate all the sensory stimuli of a real storm with a CD of storm sounds. The low barometric pressure, the rain, the humidity, the lightning, and the smell of ozone from lightning strikes cannot be imitated.

- Playing a CD of storm sounds while treating or otherwise supporting and encouraging the dog is very time-consuming, with little hope of helpful results.
- This effort may instead further sensitize the dog to storm sounds, worsening the situation.
- If this occurs, the dog may associate even more things with storms—getting out a CD; working with his owner using treats; being in the room you use for practice.
- The risks of attempting desensitization this way, combined with the time and effort involved, make it a poor strategy for working with dogs with thunderstorm fear.



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- It makes more sense to work with the dog during a real storm, as above, and keep reminders of storms out of his daily life.

Alison Seward

Veterinary Assistant

Behavior Clinic

Ryan Veterinary Hospital of the University of Pennsylvania