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“Scary Noises – How to Manage Canine Fears and Phobias”

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An individual dog’s reaction to noise may be categorized as normal, fearful, or phobic. Fear is described as a conscious response to avoid a stimulus. Although fears are not necessarily maladaptive, they can interfere with quality of life and the pet-owner bond. Phobias are exaggerated or out of proportion to the level of danger and are generally maladaptive. Anxiety is an anticipation of danger and can be mild or so severe as to interfere with function. A pet might be considered anxious in its temperament or might be anxious in specific situation. For example for thunderstorms the anxiety might be a conditioned association to the wind, rain, darkening skies, change in air pressure, or lightening that precedes the thunder. If the fearful response to a noise does not meet the criteria for phobia, the term noise sensitivity or noise aversion might more accurately describe the signs.

Sensitivity to noise is one of the most common concerns of dog owners with as many as 40 to 50% of dogs reported to be fearful of some form of noise. One recent United States survey of 1201 owners with 1960 dogs found that 17% of dogs were fearful of noises, with storms (86%), fireworks (74%) and vacuum cleaners (41%) most commonly reported. On the other hand a study out of the United Kingdom of almost 4000 dogs reported 25% of dogs with noise phobias and this increased to 49% when owners were provided with a structured questionnaire. Fireworks fears were most common (83%), thunderstorms (65%), gunshots (30%) and cars and trucks backfiring (28%). A third study New Zealand study of 3257 pets reported that 46% of dogs and cats had a fear of fireworks. Risk factors vary between studies although an increase with age is consistently reported. Spontaneous resolution is uncommon with approximately 8% of dogs improving with age; however in about ½ of these cases the improvement was associated with a loss of hearing. One study identified three distinct groups of sound fears; sudden brief noises including music, conversation and traffic, intense stressors including thunder, fireworks and gunshots, and continuous household noises including vacuum cleaners, television and cooking sounds.

The fear response is associated with behavioural, emotional and physiologic effects which impact upon the owner, the human-animal bond, and the pet’s health and welfare. When an animal experiences anxiety, fear, or stress, both the sympathetic system and hypothalamic–pituitary–adrenal (HPA) axis are stimulated so that the body can respond to the threat. The sympathetic system releases noradrenaline and adrenaline from the subcortical areas of the brain and adrenal gland, leading to the behavioural responses of fight, flight, or freeze. The physiologic response is an immediate increase in heart rate, blood pressure, respiratory rate, and vasoconstriction to internal organs. Commonly reported signs include trembling, hiding, freezing, cowering, seeking out people, running, pacing, vigilance, startle, bolting, salivation, panting, vocalizing, soiling and destructive behaviours.

One study of dogs presented for behaviour problems found that 88% of dogs with noise phobia had separation anxiety, 63% of dogs with separation anxiety had noise phobia and 90% of dogs with thunderstorm phobia had noise phobia. However the general population survey found that only 18% of dogs with noise phobias had separation anxiety and 41% of dogs with separation anxiety had noise phobias. What is most likely is that dogs that respond to salient noises (i.e. intense, unpredictable and intermittent) including thunder, gunshots and fireworks may not have significant comorbidity with other fear and anxiety, while dogs with fear of less salient noises such
as traffic and vacuums are more likely to have a fearful disposition with comorbidity to other fears (e.g. people, animals) and separation anxiety.3

There may be both genetic factors and learned factors contributing to noise fears. Herding breeds e.g. Border Collies, German Shepherds, and cattle dogs appear to be at higher risk with gundogs (pointers, retrievers, spaniels) and mixed breeds at lower risk.3 Possible mechanisms for the development of sound aversion include a lack of habituation, stress-induced dishabituation, sensitization, and social transmission from other pets.1,7 Only 8% of dogs with fear of noises spontaneously habituate over time, with ¼ of these occurring with the onset of deafness.3

Exposure to stimuli in an urban environment as a juvenile (younger than 6 months of age), seemed to have a protective effect.3,7,8 Similarly, it has been found that dogs that remained with the breeder and those with a domestic maternal environment, were less likely to have noise fears.3,8

Of the owners that indicated their pets had fear or anxiety to noises, owners sought advice in 16% to 46% of cases, with most owners indicating they thought treatment was unnecessary, too time consuming, too expensive or that there was likely no practical solution.2–4 Of those that did seek advice, most (47%-79%) asked their veterinarian.

Management

For the immediate management of storms or fireworks the owners should plan ahead both for management and medication. Alterations to the environment to minimize or mute exposure to the stimuli can help the pet and owner cope. Owners might take the pet to a room or area of the house where the stimuli will be mildest and the dog can be most easily distracted. Curtains, drapes or storm shutters, and insulated doors and windows might seal out many of the external visual and auditory stimuli. Visual stimuli might be further reduced with eye covers such as Doggles® or a ThunderCap. Nested cardboard boxes or a blanket placed over the dog’s cage might further mute the sound. The ThunderHut™ a sound muting crate cover might also be useful for decreasing audible stimuli. Retreat to a safe hiding place during a storm is an appropriate and adaptive response. External sounds might also be further reduced by turning on a TV, fan, air conditioner, humidifier, radio, white noise, or CD (perhaps with constant distracting beat such as drums or rap) and by providing the pet with a few novel and highly motivating food filled toys or chews. MuttMuffs® are a commercially available product for reducing audible stimuli. If a head halter is used in training it may also help the dog to calm. The Thundershirt and anxiety wrap may also have a calming “swaddling” effect while the Storm Defender cape might reduce the static associated with storms.3,10,12

While a positive and upbeat attitude or a calming approach might be supportive and productive, exposing the pet so that it might habituate, punishing or disciplining the pet, or displaying fear, anger or frustration can increase fear and anxiety. Neither is it advisable to cuddle or allow your pet onto your lap as this would reward behaviours that are counterproductive to teaching strategies that might help the pet cope when the owner is away or asleep at night. However, the welfare of the pet must be considered and there is little risk of “rewarding” and emotional state. Therefore the best approach would be to help the dog learn to calm (e.g. go to bed, mat, crate) or to get the pets attention with valued items e.g. favoured treats, toys, play.
Behaviour modification

At times when there are no distractions and using high value rewards, the owner should train the dog how and where it should settle in the presence of fear evoking events. Training should begin at times when the fear evoking noises can be entirely avoided so that improvement and control can be achieved before the next noise exposure. Consider clicker training, a Manners Minder, lure training, head halter training, and providing all of the pet’s high valued food toys and treats in the area where you want the pet to settle. Where possible give the pet control to make choices that are consistent with what you want to achieve. Insure consistency and predictability by implementing a program of structured interactions (say please, learn to learn) where anything given to the dog of value (food, chews, toys, treats) or anything the dog wants (affection, going outdoors, play) are given only for calm and settled behaviours (e.g. sit / watch, down / settle, bed / mat). Gradually more calm and settled behaviours should be shaped.

The owners must be certain to maintain a calm demeanor in the face of the stimuli and avoid bringing attention to the stimuli when they first arise. They can work to distract the pet through play, favoured toys and treats, or use their training (with head halter if this has been used) to help the pet focus and calm. In this way, during exposure, they can focus on guiding and rewarding desirable responses, rather than reinforcing or punishing undesirable responses. The goal is to keep the situation positive with treats and or playtime i.e. classically counter conditioned to anticipate pleasant interactions during the storm.

Some owners may find that physical manipulation such as T-Touch or gentle massage can be successfully used to help the pet calm. In addition any time the dog is observed resting, napping or engaged in toys in its safe haven, reward with calm praise, clicker training, Manners Minder or by going to the pet and offering additional treats or toys (provided the pet remains in place). Odour and tactile cues such as a family member’s sweatshirt, audible cues such as a CD, or white noise, lavender aromatherapy or pheromones might help to settle. Owners that are anxious or upset during training will further condition anxiety.

Desensitization and counter conditioning

Although it requires extensive time, commitment, patience and guidance, the primary treatment modality should be desensitization and counterconditioning to an audio or video recording of the fear evoking stimulus, beginning at sufficiently low intensity that fear or anxiety is not evoked. The owner must learn to “read” signs of anxiety and relative state of relaxation to be effective. Using a "surround-sound" recording system is more likely to produce a stimulus that is similar to the actual stimulus. If the pet cannot be successfully settled and relaxed in the presence of the recording, then it is impractical to begin exposure exercises. Training is aimed at exposing the pet to gradually more intense levels of the stimuli while the dog remains relaxed (desensitization) and pairing favoured rewards with each training session to make a positive and enjoyable association with the stimulus (counterconditioning).

Medication

Early intervention is most helpful since the dog learns from each negative experience. In addition, the welfare of the pet is best served by reducing states of anxiety, panic or phobia. Clomipramine (a tricyclic antidepressant or TCA) and fluoxetine (a serotonin reuptake inhibitor or SSRI) are the only licensed drugs for dogs. While there have been no drugs tested in placebo controlled trials for the treatment of noise fears and phobias, in one retrospective study clomipramine in conjunction with a behaviour program, was effective in the treatment of storm phobias when combined with diazepam on the day of the storm.13 In one case series fluoxetine
and paroxetine (another SSRI) were found to be effective in the treatment of generalized anxiety disorders in dogs.14 Buspirone might be another consideration but may not be sufficient to achieve anxiety control if fear is intense. In addition, short term anxiolytics such as benzodiazepines may be used alone or as adjunctive therapy immediately preceding noise exposure to reduce anxiety situationally.15 Trazodone has also been used in noise phobias in conjunction with an SSRI or TCA one to two hours in an advance of a fear evoking event16 Another option is to add clonidine an alpha-2 agonist, that blocks noradrenaline together with an SSRI one to two hours prior to departures.17 Another suggested approach is the use of selegiline on an ongoing basis combined with propranolol and alprazolam on the day of storms.18 Concurrent use of sedatives (e.g. phenobarbital, acepromazine) might help the pet to sleep through the "event" but does not reduce anxiety and may increase noise sensitivity.

Natural supplements such as the pheromone Adaptil® in combination with desensitization and counterconditioning has been reported to be effective in reducing fireworks fears.9,19 It was also effective in a pilot study when combined with CD behaviour modification for the treatment of on storm phobias and in a placebo controlled laboratory model of exposure to a thunder recording.20,21 Other natural products that might have some effect on reducing anxiety include L-theanine, alpha-casozebine, aromatherapy, melatonin or Harmonease 22-24 On the other hand, in recent studies homeopathic preparations for management of aversion to fireworks noises, there homeopathic preparation was no more effective than placebo.11,25

<table>
<thead>
<tr>
<th>Medication</th>
<th>Canine dose</th>
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<tbody>
<tr>
<td>Alprazolam</td>
<td>0.02-0.1 mg/kg prn or q6h-12h</td>
</tr>
<tr>
<td>Diazepam</td>
<td>0.5-2 mg/kg prn or q8h-12h</td>
</tr>
<tr>
<td>Clonazepam</td>
<td>0.1-1.0 mg/kg prn or q8h-12h</td>
</tr>
<tr>
<td>Lorazepam</td>
<td>0.025-0.2 mg/kg prn</td>
</tr>
<tr>
<td>Clomipramine</td>
<td>1-2 mg/kg q12h</td>
</tr>
<tr>
<td>Fluoxetine</td>
<td>1.0 – 2.0 mg/kg q24h</td>
</tr>
<tr>
<td>Sertraline</td>
<td>1-5 mg/kg q24h or 2.5 mg/kg divided q12h</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>0.5-2.0 mg/kg q24h</td>
</tr>
<tr>
<td>Clonidine</td>
<td>0.01-0.05mg/kg prn or q12h</td>
</tr>
<tr>
<td>Propranolol</td>
<td>0.5-3.0 mg/kg prn or q12h</td>
</tr>
<tr>
<td>Buspirone</td>
<td>0.5-2.0 mg/kg q12h</td>
</tr>
<tr>
<td>Trazodone</td>
<td>2 to 5 mg/kg prn to 8-10 mg/kg bid-tid</td>
</tr>
<tr>
<td>Phenobarbital</td>
<td>2.5-5 mg/kg prn or q12h</td>
</tr>
<tr>
<td>Acepromazine</td>
<td>0.5-2.2 mg/kg prn</td>
</tr>
<tr>
<td>Selegiline</td>
<td>0.5-1 mg/kg q24h in am</td>
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Note that when a dog is on an ongoing SSRI or TCA and additional medication is added adjunctively prior to events, that lowest initial dose should initially be trialed.
References:

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