

## **Common Anxiety Disorders**

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Why do anxiety/fears/phobias develop?

- Genetic/breed disposition
- Socialization period
- Behavioral maturity
- Traumatic event
- Learning

Underlying anxieties contribute to many behavior problems in dogs and can be challenging to diagnose and treat. The presentation can be variable with signs including hiding, shaking, panting and pacing perhaps severe enough to interfere with the quality of life for the pet. Anxious or phobic dogs can pose risks to people, property, themselves and other dogs. Treatment protocols include habituation, desensitization and counter conditioning.

When dogs hit their senior years, the onset of arthritis pain, endocrine disorders and cognitive decline can often exacerbate anxieties such as separation anxiety and storm and noise phobias.

Anxiety is the anticipation of danger but can occur without an apparent distinct cause or threat. Anxiety can be situational or contextual and for some animals continuous or global. Anxiety can be mild or can be so severe as to interfere with function. Dogs that show anxiety may pace, be hyper vigilant, hide or avoid people or places, pant, vocalize, drool or shake. Body postures include a lowered body posture, tucked tail and ears against the head. Some animals are inappetent, and cannot sleep and may refuse to exit the home to eliminate.

Anxiety can be caused by a number of factors including but not limited to: visitors, new babies, moving, loud noises, new objects and changes in routine. Initiating factors may include a lack of early exposure, a single traumatic event, uncertain relationship with the owners and inconsistent cues and discipline. Underlying anxieties may be components in other behavioral disorders such as aggression, house soiling, and excitable behaviors.

Concurrent anxiety:

- In a retrospective study over 1600 dogs in 2006 it was shown that dogs who have separation anxiety are more likely to show noise and storm phobia and vice versa.
- Remember that anxiety is a threshold phenomenon- all disorders need to be treated

Physiologically an anxious animal may tremble, experience tachycardia or tachypnea. Affected animals may exhibit gastrointestinal signs. Pupillary dilation, peripheral vasoconstriction and piloerection may also be evident due to an increase in sympathetic nervous system activity. Dreschel and Granger (2003) looked at the cortisol

levels of storm phobic dogs and their owners and found that canine levels rose 207% during the storm challenge and did not return to baseline within 40 minutes.

Early learning and genetics can affect anxiety. Negative experiences during development can contribute to anxiety later in life. If that same experience is repeatedly encountered anxiety and apprehension may occur through sensitization. Stimulus intensity and frequency of encounters may compound the response and various associative processes may accelerate acquisition of responses.

### **History taking**

In anxiety conditions a comprehensive history taking is essential. The history should include anxiety symptoms (hiding, decreased social interactions, decreased play, appetite and/or sleep), decline in overall activity, and other nervous or anxious behaviors. Pet-owner interaction should be examined because inconsistent interactions can contribute to anxiety. Identifying the anxiety producing stimuli is helpful, but in some generalized cases difficult. Any concurrent aggressive behaviors should be identified and discussed. Information should be obtained to rule out other causes of anxiety conditions, keeping in mind that several anxiety conditions can occur simultaneously. Finally, the owner response and previous treatments must be explored and discussed.

### **Diagnosis**

Diagnosis is based on the history of anxiety or phobic symptoms and reactions. Differential diagnosis should include separation anxiety, cognitive decline/Cognitive Dysfunction, medical causations (hypothyroidism, Cushing's). Multiple anxiety conditions can coexist and are often referred to as generalized or global anxiety. Storm phobias should be distinguished from separation related responses and video tapes may help to establish a diagnosis. In many dogs separation anxiety and storm phobias may co-exist. Some animals are better when the owner is present and signs displayed at that time might be minimal but intense responses are noted when the animal is alone. Complete physical examinations are warranted to ascertain if any underlying medical conditions may be contributory to the anxious and phobic responses.

### **Phobias**

A phobia is an excessive and persistent fear of a specific stimulus or situation. Any animal can develop a phobia to most any situation or stimulus. In dogs, the most common phobias are thunderstorm and noise phobias.

Storm phobias present a challenge to owners, veterinarians and behaviorists. Many dogs that exhibit thunderstorm phobia have very intense symptoms. These can include panting, pacing, whining, drooling, hiding, and destruction. They will often go through windows and doors and sustain injury in the process. Because of this intense behavior, these dogs can be dangerous to themselves. Noise phobias and storm phobias may be correlated with other anxiety conditions such as separation anxiety. Many dogs appear to chain events together and over time show responses to events that predict the onset of a storm such as a drop in the barometric pressure, changes in wind or lighting conditions, lightening prior to the storm onset or even thunder in the distance that may not be heard by people.

## **Treatment**

Treatment of anxiety conditions has many phases. First it is most important to try and limit the exposure to the stimuli that elicit the anxious condition. This can be through avoidance or removal of the stimulus if possible. Alternately changing the presentation of the stimulus may temporarily decrease the anxious response.

Creating a stable, predictable and safe environment for the pet is necessary and can be calming for many dogs. Measures include increasing owner control, ignoring attention seeking behaviors and set rules and expectations for interactions. Daily walks, playtime and training are important and must be added into the pet-owner routine.

## **Acute management strategies**

- Create a safe and secure environment for the dog. For storms this might be a darkened room where lightening flashes will not be noted or a windowless indoor room where sound is muted.
  - If your pet has self-selected a hiding place do not try to forcibly remove them, this is not helpful and may result in an aggressive response.
- Punishment must never be used since it will only increase the pet's distress
- Encouragement, praise or fostering may not be helpful either as the pet may interpret them as rewards for the behavior they are performing at the time. If they do calm the dog then they are worthwhile interventions.
- Playing music that is loud or has a strong beat or some type of white noise (exhaust fan) may aid in muffling the outside noises that cause the distress
- Playing with familiar toys, engaging in games or practicing obedience may help to distract the pet
- Use of a head collar and leash may offer additional control and can be calming for some dogs
- If the pet is pre-trained to go and settle on a mat, bed or other location, this strategy can help increase calm behavior.

## **Long term treatment strategies**

Inherent in changing anxiety is shaping alternate behaviors and then controlled exposure to the stimulus to help the pet learn to remain calm. The goal is to teach the animal to experience the anxiety-provoking stimulus and remain in a non-anxious state. These two techniques are coupled together as counter conditioning and desensitization.

One basic foundation exercise is to teach the pet to relax on a verbal command. This must be taught in locations and situations where the pet does not experience anxiety. Often food is used to facilitate a change in emotional state. This is not an exercise in "stay" but rather an exercise in relaxation; the goal is for the pet to be both physiologically and emotionally relaxed. This is often referred to as counter conditioning or response substitution. For storm phobias it is useful to practice in many situations, but also create a safe area where sound and visual input from the storm can be controlled and diminished.

The next phase is gradual introduction to the anxiety producing situations at a low level not likely to cause the anxious response. The owner requests the pet to assume the relaxed posture and then rewards the behavior with food and/or praise.

This is called desensitization. Exposure is gradual with the intensity of the stimulus only increased once the pet has mastered the lower level of exposure.

### **Additional treatment modalities**

No medications are approved for use specifically for situational anxieties, but one is approved for the treatment of separation anxiety, Clomicalm®. For most anxieties, medications that address the anxiety seem to work best and benzodiazepines are most commonly utilized. Trazodone is becoming more commonly used for situational anxiety as well. For best results, situational medications should be administered one hour prior to the stressful event.

For severe cases daily treatment with a Tricyclic antidepressant such as Clomipramine and the addition of a benzodiazepine during events in conjunction with behavior modification is efficacious. Tricyclic antidepressants and SSRI's on a daily basis may help control anxiety and decrease the intensity of the response. Each takes several weeks to achieve behavioral effect. Side effects include sedation, lethargy, gastrointestinal signs, constipation, urinary retention (noradrenergic signs with TCA's)

The pheromone Adaptil (Dog Appeasing Pheromone) has been formulated to help reduce anxiety in dogs. Adaptil is a synthetic formulation of the appeasing pheromone found in the intermammary tissue of the bitch, and is available as a room diffuser, spray and collar. It has been shown to be useful for reducing various forms of anxiety and during storms and fireworks. Research has shown efficacy of Adaptil for phobic responses to fireworks and when used in conjunction with a training program for firework sensitivities.

Interventions that cover and wrap the dog have been suggested but their reliability has not been rigorously tested. One study by Cottam and Dodman (2009) owners used either a treatment cape (Storm Defender®) or placebo cape for four thunderstorms. Owners in both groups indicated that their dogs showed significantly less hiding by the 4<sup>th</sup> storm while wearing the cape. There was no statistically significant difference between animals wearing the treatment cape and animals wearing the placebo cape during storms in the 3 measurements utilized for evaluation (pre treatment scores, global assessment and median treatment anxiety scores).

### **Serotonin syndrome**

A potentially fatal side effect that may occur with high doses of serotonin enhancing medications or combinations of serotonin enhancing medications such as MAO inhibitors (amitraz, selegiline), other SSRI's, TCA's, tramadol, tryptophan, buspirone, St. John's Wart, amphetamines, dextromethorphan and bromocriptine. Therefore, combinations of serotonin enhancing drugs must be avoided. Signs include cognitive alterations, agitation, restlessness, fever, shivering, diarrhea and neuromuscular activity.

### **Key Drugs, Dosages and Indications for anxieties in dogs**

<b>Key Drug</b>	<b>Drug Class</b>	<b>Dose Range</b>	<b>Frequency</b>	<b>Route</b>	<b>Indications</b>
Clomipramine*	Tricyclic antidepressant	1.0-2.0 mg/kg	Q 12 hrs	Oral	Daily
Fluoxetine*	Selective Serotonin	1.0-2.0 mg/kg	Q 24 hrs.	Oral	Daily

	Reuptake Inhibitor				
Diazepam**	Benzodiazepine	0.55-2.2 mg/kg	q 6-24 hrs	Oral	Situational anxieties
Lorazepam**	Benzodiazepine	0.01-0.1 mg/kg	q 8-12 hrs	Oral	Situational anxieties
Trazodone	Atypical anti-depressant	2-5 mg/kg	Q 8-12-hrs	Oral	Adjunctive medication for anxiety

- \*May take 2-4 weeks until effect. Not effective on an “as needed” basis. Must be given daily no matter what.
- \*\* Can be used on an “as needed” basis. May be used in conjunction with daily medications.

### Prognosis

If inciting stimuli can be identified and eliminated or avoided the prognosis may be quite good. If the inciting stimuli are difficult to control and the problem is long standing total resolution may be unlikely. Controlling the stimuli and the associated signs is a reasonable long term goal. Owners should articulate what they consider acceptable resolution to help keep expectations in line with what is possible. Contributory genetic components may limit treatment response.

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