

# Anxiety, Fears, & Phobias – VT VMA – Feb 2023

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## Fear

- Emotional response to a stimulus that is perceived as potentially harmful
- Adaptive – allows animal to avoid dangerous situations
- Results in physiological and behavioral stress responses
- Example
  - Increased heart rate, escape response, etc. when nearby tree is struck by lightning
  - *Normal*

## Phobia

- *Profound, persistent, and excessive (disproportional to the actual threat)*
- Can generalize to other stimuli
- Maladaptive – interferes with normal functioning
- Often resistant to desensitization
- Results in physiological and behavioral stress responses
  - Extreme anxiety, increased heart rate, escape response, etc. when skies become cloudy
  - *Abnormal*

## Anxiety

- Generalized feeling of apprehension *in anticipation* of a negative outcome
  - Emotional response to a stimulus that *predicts* a potentially harmful environment
- Physiological and behavioral responses
- Often slow onset and long lasting
- Considered abnormal

## Stress response

- Physiological and behavioral responses to fears, phobias, and anxiety
- Adaptive – allows animal to respond quickly
- **SAM system:** release of epinephrine and norepinephrine
- **HPA axis:** cortisol release

## **Anxiety, Fears, & Phobias**

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### **Behavioral response**

- FIGHT – defensive aggression
- FLIGHT – escape / avoidance
- FREEZE – anxious anticipation
- FIDGET – displacement behavior (if unable to avoid stimulus)
  
- Lowered posture
- Ears back
- Tail tucked
- Lip licking
- Yawning
- Shaking
- Hissing

### **Neuroanatomy**

- Amygdala
- Small almond-shaped structure deep within temporal lobe of brain
- Considered the emotional brain center
  - Processes external and internal fear-evoking or potentially threatening stimuli

### **Hippocampus**

- Major nucleus of limbic system involved in memory storage
- Synapses with amygdala and hypothalamus
- Memories can trigger amygdala and fear response

### **Fear Extinction**

- Progressive reduction of fear response to a stimulus (no adverse consequences occur)
- Original fear conditioning pathway still intact
- New learning opposes original pathway

### **Bottom Line**

- Good news
  - Memories are labile and fear response can be modified
- Bad news
  - Fear conditioning tends to “win”
  - Extinction will reverse over time
  - Poor generalization: stimuli presentation in different context suppresses extinction

**Treatment of Fears & Phobias**

- Identify triggers (visual, auditory, etc.)
- Identify threshold levels
- Avoid exposure to fear-provoking stimuli
- Ignore fearful behavior (don't reward or punish)
- **Counterconditioning**: change association with fear-provoking stimuli

**Treatment Overview**

- **Counterconditioning**
  - Change animal's (emotional) response to stimuli by associating the stimuli with rewards
  - Making a new response (not “un-learning”)
- **Classical conditioning**
  - Pair (associate) fear-producing stimuli with rewards so that stimuli signal something pleasurable
- **Response substitution (differential reinforcement)**
  - Ask animal to perform behavior *incompatible* with fear response; use special rewards
- **Systematic desensitization**
  - Step by step process of weakening an unwanted response
  - Controlled exposure to stimuli at intensity levels low enough not to elicit fear response
- Head halter
- Pheromones – Adaptil™ (collar)
- Diet / Nutraceuticals
  - Royal Canin® Calm™ diet (L-tryptophan and alpha-casozepine)
  - Solliquin® – L-theanine, *Magnolia* and *Phellodendron* extract, whey protein concentrate
- Maintenance medication
  - Give every day
  - SSRI, TCA, buspirone
- PRN medication
  - Short-acting, give before fearful event
  - Trazodone (SARI), clonidine ( $\alpha_2$  agonist), benzos (diazepam, alprazolam, clonazepam)

### **Noise Phobia**

- Clinical signs
  - Panting/salivation
  - Pacing
  - Vocalization
  - Eliminations
  - Destruction
  - Escape / avoidance
- Identify sounds and threshold volume
- Record noise for training
- Avoid or control stimuli (block sound, isolate dog, etc.)
- Counterconditioning, desensitization, and response substitution
  - Gradually increase intensity of stimulus
  - Always stay *below* threshold for fear

### **Sileo<sup>®</sup>**

- SILEO<sup>®</sup> (dexmedetomidine oromucosal gel)
- FDA-approved for the treatment of canine noise aversion
- Selective  $\alpha_2$  adrenergic agonist
  - Prevents NE release

### **Thunderstorm Phobia**

- Can be very difficult to treat
- Potential associated triggers (CS)
  - Static charge
  - Barometric pressure
  - Lightning
  - Rain / wind
- CDs for desensitization
  - *Sounds Scary*
  - *Electrifying Thunderstorms*
- During storm
  - “Safe haven” – allow dog to hide during storm
  - White noise – fan, classical music (“Through A Dog’s Ear”)
- During storm
  - Thundershirt<sup>™</sup>

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- Storm Defender™
- Anxiety Wrap®
- Calming Cap™ / ThunderCap
- Adaptil™
- Mutt Muffs®

### Medications

- Maintenance therapy
  - SSRI, TCA, buspirone
  - PRN therapy (dose 30-60 min before storm)
    - Benzodiazepines – appropriate if recover quickly after storm has ended
    - Trazodone (SARI)
    - Clonidine ( $\alpha_2$  agonist)
  - Sileo ( $\alpha_2$  agonist)
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### Fear of People

- Specific person
- Unfamiliar people
- Children
- People in uniforms, etc.
- Gender (male > female)

### Treatment:

- Identify and avoid person(s) evoking fear response (e.g., unfamiliar men)
- Identify distance threshold for eliciting fear
- Develop gradient of stimuli from least to most fearful
  - E.g., familiar woman → unfamiliar woman → familiar boy → unfamiliar boy → familiar man → unfamiliar man
- **Counterconditioning / desensitization (CC/DS)**
  - Ensure adequate control (e.g., head halter)
  - Start with least fearful stimulus (e.g., familiar woman) below threshold distance (e.g., > 20')
  - Response substitution (e.g., ask dog to sit)
  - Associate person(s) with desirable things (e.g., treats)
  - Gradually increase level of intensity – *but always stay below threshold for fear*

### **Fear of Places**

- Identify fear-producing stimuli
  - Identify threshold level, then bring dog close to that distance (without triggering fear response)
  - **CC/DS with response substitution**
    - Reward for obeying basic commands while gradually decreasing distance (*always staying below threshold for fear response*)
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### **Fear of Vet Clinic**

- “Happy visits”
  - Bring to clinic and progress through process of exam, stopping at point animal starts to become stressed
- **Desensitization / counterconditioning**
  - In car in parking lot → outside car in parking lot → waiting room → exam room → staff approach → staff touch → exam/procedure
- Proper handling! (Sophia Yin’s book)

### **Proper Equipment**

- Food!
    - Experiment with different types and note in file
  - Gentle Leader<sup>®</sup> or other head halter
  - Restraint
    - Basket muzzles
    - Towels
    - E-collars, Air Muzzle Restraint<sup>®</sup>
  - Removable-top carriers for cats
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### **Fear of Car**

- Avoid car rides unless training
- CC/DS
  - ID threshold
  - Work through progression of entering car and driving:

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- Dog outside car with door open → enter car → turn on engine → put car in gear
    - Stop when early signs of stress
  - Confinement – crate, seat belt, Gentle Leader<sup>®</sup>, Calming Cap<sup>™</sup>
  - May be helpful to have both driver and trainer
  - PRN medications
  - Adaptil<sup>™</sup> collar
  - Rule out nausea!
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### **Separation Anxiety**

- Recurrent distress associated with the absence or perceived absence of an attachment figure
- Second most common complaint in behavior specialty practice
- Re-homed / shelter dogs
- Mixed breed > Purebred
- Geriatric dogs
- Often triggered by
  - Change in household
  - Change in schedule

### **Clinical Signs**

- Begin before or just after owner leaves
- Destruction – digging, scratching, chewing
- Vocalization
- Urination / defecation
- Panting, salivating

### **“Velcro Dogs”**

- Often hyper-attached to one or more family members
- Become anxious when recognize departure cues
- Exuberant greetings upon return

### **Diagnosis**

- Destruction, vocalization, elimination, etc. occur *only* when the dog is alone
- Rule out medical problems
- Video!
- Video!
- Video!
- Audio OK too

### **Differentials**

- Incomplete housebreaking
- Confinement anxiety / barrier frustration
- Aggression
- Reaction to noises (outside, rodents)
- Destructiveness / exploration

### **Treatment**

- **Independence training:**
  - Environmental changes
  - Behavior modification
  - Pharmaceuticals
- Avoid triggers that can be controlled
- Pet sitters
- Doggie daycare
- Dog walker
- Car
- ***Independence training***
  - Remove dog (gradually) from bedroom at night
  - Reward only relaxed, independent behavior
  - Structured interactions – ignore attention-seeking (Leadership Protocol)
  - **“Down-stay”** – *gradually* increase time until dog can calmly stay while owner leaves the room for 10 minutes
- Behavior Modification – ***Downplay departure and arrival***
  - Make transition from owner’s presence to their absence less pronounced
  - Give long-lasting food treat ~10 minutes before leaving and quietly depart



- **Graduated departures**
  - Dog in “down-stay”:
    - Walk to door, touch doorknob
    - Open and shut door
    - Open door, walk outside for 1 sec, then ... 3 sec,... 10 sec,... 1 min,... 5 min,... 20 min
    - Do not proceed to next step (or increase time outside) unless dog can remain calm
  - Very time-consuming; frustrating for owner
- Training versus real departure
- Make situations very different
  - Crate vs. loose
  - Leave different doors
  - Distinct “safety cue” for training
- When can be alone during training for ~20 min, change real departure to training context
- Use special rewards (food / toys) for training and actual departures

### **Confinement**

- Confinement anxiety / barrier frustration
- Often comorbidity in dogs with separation anxiety
- Best to get dog out of crate
- Safe tethering
- Not always realistic

### **Enrichment**

- Physical and mental stimulation to engage dog in appropriate behaviors

### **Medications (maintenance)**

- FDA approved:
  - Clomicalm<sup>®</sup> (clomipramine)
  - Reconcile<sup>®</sup> (fluoxetine)
- Other SRRIs, TCAs
- Maintenance – every day
- May take up to 6 weeks for effect

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### **Medications (PRN)**

- Benzodiazepines
  - Diazepam (~2-4 hrs)
  - Alprazolam (~4-6 hrs)
  - Clonazepam (~6-8 hrs)
- Trazodone (~12 hr)
- Clonidine (~12 hr)
- Give 60-90 min. before departure (to avoid “wind-up” anxiety)
- Test dose (watch for paradoxical effects)

### **Adjunct Treatments**

- Dog-appeasing pheromone – Adaptil™
- Wraps – Anxiety Wrap®, Thundershirt™, ace bandage, t-shirt
- Royal Canin® Calm™ diet – L-tryptophan and alpha-casozepine (dogs < 33 lb.)
- Solliquin® – L-theanine, *Magnolia* and *Phellodendron* extract, whey protein concentrate
- Purina® Pro Plan® Calming Care Supplement
- HarmonEase® Chewable Tablets – flower essences

### **When to medicate?**

- Early!
- Dogs are *panicking*
- Can help prevent dysregulation of stress response and escalation of anxiety