

# Compulsive Disorders in Dogs

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CD is the exaggerated display of an otherwise normal behavior(s) that is out of context at the time it is displayed and has no apparent goal. In addition, the behavior(s) tend to interfere with normal activities.

## Commonly seen CD's

Spinning, Tail Chasing, Self Mutilation, Fly Biting, Circling, Light or Shadow Chasing, Flank Sucking

## Categories

- Aggressive
- Biting at Tail, Directed at inanimate objects

## Oral

Flank Sucking, Fly Snapping, Chewing/Licking Objects

## Suspected causes

- Neurochemical (Neurotransmitter) Disorders involving serotonin, beta endorphins, dopamine
- Self-Reinforcing (Endorphins)
- Genetic Predisposition
- Attention Seeking
- Gastrointestinal Disease
- Neurotransmitter disorders

## Neurotransmitter disorders

- Endorphins

Internally produced chemicals which resemble opioids that function to reduce the perception of pain by the brain and increase an overall feeling of well-being ("runner's high")

## Gastrointestinal disease

Evidence from Research by Dr. Diane Frank (Veterinary Behaviorist from the University of Montreal) indicates at least some CDs may involve GI Disease. The two conditions studied were:

- Excessive Licking of Surfaces (ELS)
- Fly Biting

## In one study

- 19 with Dogs w/ ELS
- Complete Medical and Behavioral Histories
- Physical and Neurological Exam
- Blood Work, Abdominal U/S, Endoscopy and Biopsies were performed

## Majority of dogs had GI disease

- Lymphoplasmacytic Infiltration
- Chronic Pancreatitis
- Gastric Foreign Body

## Treatment

- Treatment of diagnosed underlying GI disorder
- 5 dogs were not diagnosed with GI disease
- 4 out of the 5 improved in their ELS with use of a hypoallergenic diet along with an antacid or antiemetic.

## In a second study

- 7 with Dogs w/ Fly Biting Behavior
- Complete Medical and Behavioral Histories

- Physical and Neurological Exam
- Blood Work, Abdominal U/S, Endoscopy and Biopsies were performed

All Dogs Had GI Disease and one of the dogs was diagnosed with Chiari Malformation (mismatch in volume between caudal brain structures and the caudal skull associated with herniation of the cerebellum through the foramen magnum)

#### **Majority of dogs responded to medical treatment**

- Predispositions
- Breed or Family History
- Stress, conflict or frustration
- Inciting medical cause (allergies, fleas, GI Disorders, anal sac disease)
- Owner reinforcing behavior

#### **Typical history**

- Any age, gender or breed
- Onset at social maturity (12-36 months of age)
- Males may be more commonly seen
- Behavior may begin out of frustration then generalize and may worsen over time
- Breed may be associated with specific compulsive disorders.....

#### **Breed associations**

- Bull Terriers: spinning, tail chasing, freezing
- German Shepherds: spinning and tail chasing
- Dalmation, Rotties, and GSD: Hallucinations
- Doberman: Flank Sucking
- Border Collies: Shadow Staring
- Australian Cattle Dogs: Tail Chasing
- Miniature Schnauzer: Checking Hind End
- Large Breed Dogs: Acral Lick Granuloma

#### **Differential diagnosis (medical)**

- Generalized Seizures
- Focal Seizures
- Dermatologic Disease
- Toxin Exposure
- Trauma
- CNS Disease (neoplasia, granulomatous disease, infectious, trauma)

#### **Differential diagnosis (behavioral)**

- Compulsive Disorder
- Attention Seeking Disorder
- Normal Behavioral Variation to Conflict

#### **Diagnostic procedures**

- Physical and Neurological Examination
- CBC, Chemistry Profile, Thyroid Profile and Urinalysis as Minimum Database
- Additional Testing if Other Abnormalities Are Detected (Such as GI Workup)
- Videotaping of the Behavior
- Behavioral History

#### **Treatment - management**

- Identify and remove sources of stress, conflict and frustration if at all possible
- Predictable interaction
- Daily routine
- Physical and mental stimulation
- Avoid punishment

## Behavior modification

- Basic Obedience using positive reinforcement in order to develop basic skills and relieve boredom
- Clicker training can be used as a training strategy if desired. Goal is for these behaviors to become automatic and reflexive so that they can be used to substitute for problem behavior.
- Avoid or remove triggers
- Identify those stimuli (sounds, activities, visual triggers) and reduce their effect in order to increase the likelihood of engaging in more appropriate behavior.
- *An example is to cover windows to avoid visualization of outdoor activity if this triggers the problem behavior.*
- Remove attention as a reward for the compulsive behavior. Only interact when not engaging in the problem behavior. In early stages, attention may prove to be the reinforcing factor before the behavior becomes truly compulsive.
- Response Substitution. Engaging the dog in alternate behaviors to compete with or replace the problem behavior.

## Treatment (medication)

- Medication needs to be continued for 3-5 weeks before evaluating effect
- Use for 3-6 months after beneficial effect then gradually wean dose
- If behavior reoccurs at a lower dose, return to the previously effective dose
- Medications are designed to alter neurotransmitter levels, primarily serotonin
- SSRI
  - Fluoxetine
  - Dose: 0.5-2.0 mg/kg SID
  - Side Effects: sedation, anorexia, vomiting, diarrhea, increased anxiety, hepatic abnormalities
- TCA
  - Clomipramine
  - Dose: 1-3 mg/kg BID
  - Side Effects: sedation, anorexia, vomiting, diarrhea, increased anxiety, hepatic abnormalities
- Continue treatment for 3-6 months
- Gradually wean down dose
- If symptoms return, go back to previously effective dose
- CBC/Chem. Panel 4-6 weeks after beginning medication and compare to baseline. Repeat q 6 months while on medication

## References

- Frank D. et al. Gastrointestinal disorders in dogs with excessive licking of surfaces. J Vet Behavior 2012;7:194-204
- Frank D, et al. Prospective medical evaluation of 7 dogs presented with fly biting. Can Vet J 2012;53: 1279-1284