

# OVERVIEW OF AGGRESSION IN DOGS

## BASICS

### OVERVIEW

- Action taken by one dog directed against a person or another animal, with the result of harming, limiting, or depriving that person or animal; aggression may be offensive, defensive, or predatory (that is, hunting behavior)
- Offensive aggression—unprovoked attempt to gain some resource (such as food or toys) at the expense of another; includes social status/dominance, inter-male (that is, between two males), and inter-female (that is, between two females) aggression
- Defensive aggression—aggression by a “victim dog” toward a person or another animal that is perceived as an instigator or threat; includes fear-motivated, territorial, protective, irritable (pain-associated or frustration-related), and maternal aggression
- Predatory aggression—rare; the dog’s aggression may be triggered by “prey” behavior by the victim (person or another animal), such as running or squealing

### SIGNALMENT/DESCRIPTION of ANIMAL

#### **Species**

- Dogs

#### **Breed Predispositions**

- Any breed may show aggression
- Pit bulls, rottweilers, German shepherd dogs—associated with fatal dog bites

#### **Mean Age and Range**

- Any age puppy or dog may show aggression
- Social status/dominance-related offensive aggression—escalates near the time the dog reaches social maturity (1 to 2 years of age)

#### **Predominant Sex**

- Any sex dog may show aggression
- Males—intact or castrated
- Females—intact; maternal aggression

### SIGNS/OBSERVED CHANGES in the ANIMAL

- Behavioral warning signs include being motionless (immobility), growling, snarling, or snapping at air; offensive aggression warning signs include head up, tail up, direct stare, face-on immobility; defensive aggression warning signs include head lowered, tail down, and body withdrawn
- Physical examination usually unremarkable
- Dominance-related aggression, fear-related aggression, or irritable aggression may be evident during the examination
- Nervous system examination—abnormalities may suggest a disease process (such as rabies) as the cause of aggression
- Signs vary, according to the situation and the type of aggression

#### **Social Status/Dominance Aggression**

- Directed toward household members
- Head up; tail up; staring; stiff gait
- Triggers that stimulate aggression include reaching for pet, patting on head, pushing off sleeping sites, approaching food or stolen objects
- Also called “conflict aggression”

#### **Inter-male (between two males) and Inter-female (between two females) Aggression**

- Directed toward other dogs, usually same sex
- Human injury, when person interferes with fights
- Head up; tail up; staring; stiff gait

#### **Fear-Motivated Aggression**

- Directed to people or dogs who approach, stand over, or reach for the dog
- Certain familiar people may be exempt
- No gender bias
- Head down; eyes wide; tail tucked, spine in “C” curve

#### **Territorial Aggression**

- Directed toward strangers approaching home, yard, or car
- May be increased in intensity, if the dog is restrained
- Agitation, barking; lunging; baring teeth
- Approach/avoidance behavior is common; “approach/avoidance” behavior consists of the dog approaching the stranger and then moving back away from the stranger

#### **Protective Aggression**

- Directed toward stranger approaching owner

- Escalates with decreasing distance between the stranger and the dog and owner

### ***Irritable (Pain, Frustration) Aggression***

- Restricted to specific context associated with pain (for example, nail trim, injection) or conflict associated with being restrained
- Other forms of aggression (social status/dominance and fear-induced aggression) should be considered as possible causes of signs

### ***Maternal Aggression***

- Directed toward individuals approaching the whelping area or puppies
- Intensity usually related to age of puppies; the intensity of aggression is greater the younger the puppies

### **CAUSES**

- Part of the normal range of dog behavior; strongly influenced by breed, sex, early socialization, handling, and individual temperament
- May be caused by a medical condition—possible but rare; medical causes of aggression should be considered in all cases

### **RISK FACTORS**

- Poor socialization to certain types of stimuli (such as children)—adult dog may display fear-related aggression
- Environmental conditions may lead to aggression or may increase the level of aggression—such as associating with other dogs in a pack; barrier frustration or tethering; cruel handling and abuse; and dog baiting and fighting

## **TREATMENT**

### **HEALTH CARE**

- The first tenet of management is to prevent injury to people
- Overtly aggressive dogs are never cured, occasionally they may be managed successfully
- Euthanasia—appropriate solution in cases of vicious dogs; may be the only safe solution
- Board the dog until an outcome decision or implementation of a safe management plan is made
- Use physical barriers, to reduce risk of injury to people, until the owner obtains treatment
- Identify specific situations that have led to aggression in the past; use a specific plan to avoid these situations
- Improve physical control of the dog using reliable barriers (such as fences, baby gates), muzzles, leashes, and head halters
- Calmly and safely remove dog from aggressive-provoking situations
- Avoid punishment and confrontation; punishment and confrontation promote defensive (fear) responses and escalate aggression
- Management success—combination of environmental control, behavior modification, and medication

### ***Social Status/Dominance Aggression***

- Environmental—use barriers and restraint to prevent injury to people
- Devices—train the dog to accept a muzzle and head halter
- Behavior modification, step 1—withdraw all attention from the dog for 2 weeks; list situations in which aggression occurs; devise a method of avoiding each situation; daily, list all aggressive incidents and circumstances to avoid in the future—do not punish the dog
- Behavior modification, step 2—use non-confrontational means to establish the owner's leadership; teach the dog to reliably “sit/stay” on command in gradually more challenging situations (dog must comply without causing any problems to the owner before getting attention and other benefits); no “free” benefits (dog must “sit/stay” before eating, being petted, going for walk, and any other attention; the owner initiates all interactions)
- Behavior modification, step 3—gain greater control; situations that previously elicited aggression are introduced gradually with the dog controlled in a “sit/stay” position (muzzle if necessary)
- Surgery—neuter males; unless aggression is associated with the heat cycle, spaying (ovariohysterectomy) of female will not improve behavior

### ***Inter-male and Inter-female Aggression***

- Environmental—use barriers to prevent contact between the dogs, unless they can be well supervised; note dominance order between dogs; if apparent, comply with dogs' rules (for example, dominant dog is fed first, travels through doorways first)
- Devices—train the dog to accept a head halter and muzzle
- A reduced protein diet may be helpful
- Behavior modification, step 1—owner must withdraw all attention to both dogs; teach “sit/stay” program (as for dominance-related aggression)
- Behavior modification, step 2—desensitize or countercondition by gradually decreasing distance between dogs while they are under leash control; reinforce acceptable behavior; “desensitization” is the repeated, controlled exposure to the stimulus [in this case, another dog] that usually causes an aggressive response, in such a way that the dog does not respond with aggression; with repeated efforts, the goal is to decrease the dog's aggressive response; “counterconditioning” is training the dog to perform a positive behavior in place of the negative behavior (in this case aggression)—for example, teaching “sit/stay” and when performed, the dog is rewarded; then when the dog is placed in a situation where it might show aggression, have it “sit/stay”

- Surgery—neuter males; spay (ovariohysterectomy) of females recommended only if aggression is associated with heat cycle (otherwise it will not improve behavior)

### **Fear-Motivated Aggression**

- Environmental—barriers and restraint to prevent injury to people
- Devices—muzzle
- A reduced protein diet may be helpful
- Behavior modification, step 1—list all situations in which the dog appears fearful or exhibits aggression; avoid situations initially; teach dog basic obedience commands and reinforce under non-fearful conditions (generalize by training in many locations)
- Behavior modification, step 2—desensitize and countercondition; subject the dog to mildly fearful conditions with the stimulus (for example, a stranger) far away; keep the dog attentive and performing obedience commands; gradually decrease the distance of the stranger; if the dog exhibits fear, the stranger should withdraw and work should continue at an easier level, then gradually progress; desensitize or countercondition by gradually decreasing distance between the dog and the stimulus while the dog is under leash control; reinforce acceptable behavior; “desensitization” is the repeated, controlled exposure to the stimulus that usually causes an aggressive response, in such a way that the dog does not respond with aggression; with repeated efforts, the goal is to decrease the dog’s aggressive response; “counterconditioning” is training the dog to perform a positive behavior in place of the negative behavior (in this case aggression)—for example, teaching “sit/stay” and when performed, the dog is rewarded; then when the dog is placed in a situation where it might show aggression, have it “sit/stay”
- Surgery—neutering males or spaying female probably will not improve the behavior

### **Territorial Aggression**

- Environmental—barriers and restraint to prevent injury to people; initially, when visitors come, isolate the dog to prevent it from exhibiting the behavior
- Devices—head halter, muzzle
- Behavior modification, step 1—teach the dog “sit/stay,” first at neutral locations, then near the door and at other sites of territorial aggression; later, control the dog while a familiar person approaches; reward the dog for calm, obedient behavior
- Behavior modification, step 2—gradually introduce strangers; increase the difficulty as the dog learns control; move the exercises to the door; add ringing the door bell and entering the door
- Surgery—neutering males or spaying female probably will not improve the behavior

### **DIET**

- A reduced protein diet may be helpful in controlling some forms of aggression

## **MEDICATIONS**

Medications presented in this section are intended to provide general information about possible treatment. The treatment for a particular condition may evolve as medical advances are made; therefore, the medications should not be considered as all inclusive.

- No medications are approved by the federal Food and Drug Administration (FDA) for the treatment of aggression in dogs; discuss the risks and benefits of using medications with your pet’s veterinarian
- Medication should be used only in conjunction with a safe management plan
- Medications that increase serotonin (chemical messenger in the brain that affects mood and behavior) may be helpful to reduce anxiety, arousal, and impulsivity
- Treatment duration: 4 months to life
- Medications that have been tried include amitriptyline, fluoxetine, and L-tryptophan
- **Clomipramine** (Clomicalm®) has a warning on the label that it is not designed to treat aggression; therefore, it should not be used to treat canine aggression
- Megestrol acetate has been used successfully with dominance-related and inter-male aggression; however, it does have side effects that should be considered

## **FOLLOW-UP CARE**

### **PATIENT MONITORING**

- Weekly to biweekly contact—recommended in the initial phases
- Clients need feedback and assistance with behavior modification plans and medication management

### **PREVENTIONS AND AVOIDANCE**

- Avoid situations that lead to aggression
- Use extreme care when handling aggressive dogs; use muzzles and other restraints to prevent injury to people and other animals

### **POSSIBLE COMPLICATIONS**

- Injury to people and/or other animals
- Social status/dominance aggression—can be directed toward owners

- Interdog aggression—people often seriously injured when interfering with fighting dogs, either by accident or by redirected or irritable aggression; owners should not reach for fighting dogs; pull apart with leashes

#### **EXPECTED COURSE AND PROGNOSIS**

- Aggressive dogs are never cured, some may be managed successfully

#### **KEY POINTS**

- Aggressive dogs are never cured, some may be managed successfully
- Behavioral warning signs include being motionless (immobility), growling, snarling, or snapping at air; offensive aggression warning signs include head up, tail up, direct stare, face-on immobility; defensive aggression warning signs include head lowered, tail down, and body withdrawn
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