

## CLASSIFYING AGGRESSION in DOGS on the DEFENSIVE CONTINUUM (CADD-C)

Aggression is part of the defensive continuum across species. It is used as social communication that allows the dog to establish physical or mental control over a desired resource or a situation – often by creating distance. Dogs tend to use aggressive behavior because they have learned it works for them (they become confident in its use and use aggression as an instrument) or when they are unable to escape a perceived threat. There are a variety of often-seen reasons for aggression. It is useful to tease apart the reason for aggression as the type may have its own genetic and neurological genesis, regulatory mechanisms, antecedents and functions and may require different treatment.

Aggression Type		Description
A.	Predation (sometimes called predatory drift)	Usually stimulated by the presence of a natural object of prey. However, a dog may mistake a small animal (i.e. cat) or child for a food source that it might hunt in the wild; quick movement by the small animal or child can stimulate a dog's instinct to chase and catch prey. Predatory behaviour can also be stimulated by fast movement (cars, skateboards, bikes, runners) or by running hard in play, where the high arousal triggers the instinct.
B.	Stranger / Novelty / Introduction	Dog acts aggressively toward strange dogs/ other animals or strange humans approaching dog or caregiver and family group (usually outside the dog's usual territory – see territorial above), or toward novel objects/situations. Dog may have previously learned strangers can be dangerous, may lack good socialization (to support novelty acceptance), have genetic flaws or histories of abuse.
C.	Inter-female	Some females are intolerant of other females, possibly to preserve perceived status as primary breeder. It is likely this aggression is higher in closed groups.
D.	Inter-male	Usually this is aggression in response to a novel male in a familiar or neutral area. Can be caused by concern about who has access to breeding female. Fighting can be to the death.
E.	Adult-to-puppy	In the wild males occasionally kill or maim youngsters (particularly males) who they have not sired. Biologists suggest this is to ensure that the adult can impregnate the mother and the adult's genes will survive.
F.	Maternal	Mother has strong desire to defend her litter, often driven by prolactin and often lasts through lactation.
G.	Trigger Stacking	Typically an anxious dog becomes more aroused (and more likely to bite) when more and more triggers (reasons for defensive behaviour) are added to a situation.
H.	Redirected or Frustration	When a dog is eager to engage in aggressive display with another dog or person and is held back or otherwise touched, they can blindly turn and bite someone/thing or a dog that they would not normally show aggression to. It is suggested this is caused by anxiety with the added frustration of not being able to resolve the anxiety. Barrier frustration (from being visually aroused but held back from resolving the situation via things like leashes, fences, windows) can often lead to redirected frustration.
I.	Inter-household Status	Jockeying for position is typical for both dogs and people, but when dogs are seriously aggressive it usually not about social status – these disputes are usually settled with a combination of body language and boundary-testing play. When dogs within a household are displaying significant aggression towards each other it is usually another type of aggression listed here. Arousal about resources or novelty in household routine may be a tipping point into aggression (see trigger stacking and redirection).
J.	Petting or Play-Induced	A dog may also actively seek out petting or engage in play and then become aroused (overly stimulated or more anxious - see trigger stacking). This arousal can lead to (usually redirected) aggression.
K.	Attention paid to another dog or human by caregiver	Dog tends to push between caregiver and other people or animals. Can be in novel or familiar space. May be possessive (see below) and/or protective.
L.	Possession	Dog is communicating that the resource is theirs. Previous attempts to use body language to communicate this fact (e.g. stillness, turn-away) have generally been ignored and the dog increases its response to frank aggression. This is a more significant cause of aggression when food resources are limited.
M.	Territorial – towards visitors	Defending area(s) where the dog spends time and feels secure against intruders. Area can be micro (such as the area around a valued person as above) or more macro. See also thermoregulatory below.
N.	Thermoregulatory Challenge	Small dogs, usually Chihuahuas, have trouble self-regulating their internal temperature and can get very attached to a favourite warm location (like a lap). Attempts to move the animal or perceived threat to take the warm space can create a defensive reaction.
O.	Startle	The old saying about "let sleeping dogs lie" is a truism. Dogs are likely to bite when startled or awakened from a deep sleep. This category is related to self-protection below.
P.	Self-Protection / Pain-Elicited / Irritable	Dogs are generally good at hiding pain, seeming to be fine but reacting with their teeth to protect their painful body part when approached too closely. This also can show up when a person continues to try to manipulate a dog's body part and ignores the dog's polite requests to back off – particularly dangerous when an otherwise gentle family pet is cornered by an aggressively touching child. Can occur when caregiver attempts to physically discipline the dog. Dog may have prior history of painful handling.
Q.	Health Related / Pathophysiological	What happens inside a dog's body can tip a dog into an aggressive display. Contributors can include: hormonal fluctuations, seizures, brain injury, canine cognitive dysfunction, medications prescribed to treat an illness or a genetic component such as Cocker Rage Syndrome.
R.	Idiopathic	This category is simply medical jargon for "we do not really know what causes it".

## References:

- Abbaszadeh Hasiri, M., Nekouei Jahromi, O.A., Shojaee Tabrizi, A., 2013. Prevalence of different aggression types and assessment of related determinants in a population of Iranian domestic dogs. *Iran. J. Vet. Res.* 14, 291–298.
- Amat, M., et al, 2009. Aggressive behavior in the English cocker spaniel. *J. Vet. Behav. Clin. Appl. Res.* 4, 111–117.
- American Society for the Prevention of Cruelty to Animals, 2017. Common Dog Behavior Issues - Aggression [WWW Document]. URL <http://www.asPCA.org/pet-care/dog-care/common-dog-behavior-issues/aggression> (accessed 1.21.17).
- Appleby, D.L., Bradshaw, J.W.S., Casey, R.A., 2002. Relationship between aggressive and avoidance behaviour by dogs and their experience in the first six months of life. *Vet. Rec.* 150, 434–438.
- Bandura, A. (1986), *Social Foundations of Thought and Action: A Social Cognitive Theory*, Englewood Cliffs: Prentice Hall, and Bandura, A. (1991), 'Human Agency: The Rhetoric and the Reality', *American Psychologist*, 46, pp. 157–162 in Ramirez, J.M., 2009. Some dichotomous classifications of aggression according to its function. *J. Organ. Transform. Soc. Chang.* 6.
- Bálint, A., et al, 2016. Threat-level-dependent manipulation of signaled body size: dog growls' indexical cues depend on the different levels of potential danger. *Anim. Cogn.* 1–17.
- Barratt, E., et al, 1991. A controlled trial of phenytoin in impulsive aggression. *J. Clin. Psychopharm.* 11, 338–389 in McEllistrem, J.E., 2004. Affective and predatory violence: A biomodal classification system of human aggression and violence. *Aggress. Violent Behav.* 10, 1–30.
- Borchelt, P.L., 1983. Aggressive behavior of dogs kept as companion animals: Classification and influence of sex, reproductive status and breed. *Appl. Anim. Ethol.* 10, 45–61.
- Crowell-Davis, S.L., 2008. Aggressive dogs: assessment and treatment considerations. *Compend. Contin. Educ. Vet.* 30, 274–80.
- Faragó, T., et al, 2010. "The bone is mine": affective and referential aspects of dog growls. *Anim. Behav.* 79, 917–925.
- Fatjo, J., 2001. Impulsivity in Dogs – Assessment and Treatment. *World Anim. Vet. Assoc. Proceedings, World Congr. – Vancouver.*
- Fonberg, E. 1979. Physiological mechanisms of emotional and instrumental aggression. In *Aggression and behavior change*, ed. S. Feshbach & A. Fracsek. Prager Publishers. New York, NY, USA. pp. 6–53.
- Haug, L.I., 2008. Canine aggression toward unfamiliar people and dogs. *Vet. Clin. North Am. Small Anim. Pract.* 38, 1023–41, vi.
- Heath, S., 2007. Dispelling the dominance myth., in: *World Small Animal Veterinary Association Conference Notes*. Sydney, Australia.
- Hsu, Y., Serpell, J., 2003. Development and validation of a questionnaire for measuring behavior and temperament traits in pet dogs. (C-Barq). *J Am Vet Med Assoc.* 223, 1293–1300.
- Molnar, C., et al n.d. Dogs discriminate between barks: The effect of context and identity of the caller. *Behav. Processes* 82, 198–201.
- Moyer KE. Kinds of aggression and their physiological basis. *Communication in Behavior Biology.* 1968;2:65–87 in Liu, J., 2004. Concept analysis: aggression. *Issues Ment. Health Nurs.* 25, 693–714.
- Notari, L., et al, 2016. Is there a link between treatments with exogenous corticosteroids and dog behaviour problems? *Vet. Rec.* 176, 893–918.
- O'Heare, J., 2007. *The Dog Aggression Workbook*, 3rd ed. dogpsych publishing.
- Perusini, J.N., Fanselow, M.S., 2015. Neurobehavioral perspectives on the distinction between fear and anxiety. *Learn. Mem.* 22, 417–25.
- Ramirez, J.M., 2009. Some dichotomous classifications of aggression according to its function. *J. Organ. Transform. Soc. Chang.* 6

**FOR INQUIRIES REGARDING THIS CLASSIFICATION, contact Helen Prinold at:**

