TOO HOT TO HANDLE:
UNDERSTANDING AND WORKING WITH THE "REACTIVE" DOG

Christopher Pachel, DVM, DACVB, CABC
Animal Behavior Clinic, Portland, OR, USA

Arousal, the physiological and psychological state of being awake, is maintained by several complex neural systems and is necessary for normal day to day activity as well as for survival. Normal arousal levels are involved in the regulation of attention, information processing and the modulation of fight/flight responses. This adaptive response enables the animal to respond rapidly to environmental changes or potential stressors. In this context, "stress" is any stimulus that requires an adaptive response on the part of the animal and is not necessarily something negative or aversive.

Physiologic responses to stress include activation of the hypothalamic-pituitary-adrenal axis (leading to the release of cortisol from the adrenal cortex) and the neural release of epinephrine and norepinephrine from the adrenal medulla. These mechanisms, in addition to heart rate and salivary cortisol have been studied as a way to monitor and document stress responses from individual animals in a variety of situations[1,2].

Exposure to a range of neutral or appetitive stimuli allows for normal development of activated synapses and individualized development of the nervous system[3]. The growth and maturation of these mechanisms is significantly impacted throughout development by varying levels of handling, social contact and exposure to environmental changes[4-6]. Perhaps most importantly, a lack of early exposure can negatively impact the development of these systems which may have lasting effects on the behavior of the individual for the remainder of their life.[7]

From a clinical perspective, the development of fear, anxiety and reactivity problems can impair the dog's ability to adapt to normal everyday situation as well as acute and chronic stressors. These affected dogs tend to overreact to stimuli, have difficulty regulating positive or aversive emotional responses and may have difficulty recovering adequately from stressful experiences. For an individual animal, factors such as genetic predisposition, prenatal influences and the salience of the stimulus can all affect the way the animal responds.

"Reactivity" is generally considered more of a temperament trait or a behavioral description than a specific diagnosis. However, reactivity traits can significantly influence the response patterns of dogs with fear related aggression, noise phobia, attention seeking behaviors and other diagnoses.

Treatment for reactivity should include strategies that target the dog's specific diagnosis such as desensitization and counterconditioning for fear related problems. It is also important to rule out underlying medical issues such as hyperkinesis, behavioral diagnoses such as attention seeking and unintentionally rewarded behaviors or insufficient levels of physical exercise or mental stimulation.

Specific behavior modification exercises include Dr. Karen Overall's Protocol for Relaxation[3], shaping of progressively more relaxed behaviors, operant conditioning or response substitution in progressively higher arousal situations or techniques such as "suddenly settle" or training games such as "go wild and freeze". Each of the techniques target a slightly different aspect of reactivity and are frequently used in combination to address an individual dog's spectrum of behaviors.

Selective serotonin reuptake inhibitors (SSRIs) such as fluoxetine or tricyclic antidepressant (TCA) medications can be used to target serotonergic or noradrenergic neurotransmitter systems. These medications are used off label as part of maintenance treatment and should always be combined with behavior modification techniques. For patients with situational arousal problems, event medications such as trazodone[8] or clonidine can be used as long as the patient is appropriately monitored. Benzodiazepine medications can provide significant anxiolytic effects for anxieties and phobias but may not have as much direct impact on arousal levels and should be used cautiously in patients with a history of aggression due to the risk of disinhibition.

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