

Hyperactivity in Dogs

Occasionally owners of very active dogs come to my office convinced that their dogs are hyperactive and have attention-deficit/hyperactivity disorders. Do these conditions really exist in dogs?

Hyperactivity is “a rare clinical syndrome characterized by overactivity, attention deficits, impulsivity, high resting basal physiologic parameters and a paradoxical calming response to amphetamines.”¹ Labeling these dogs as “hyperkinetic” may be clearer; they do not habituate to normal stimuli, are reactive, and cannot seem to rest even in calm, quiet surroundings. Within veterinary practice, the condition appears to be rather rare. The signs noted by owners are usually attributable to breed dispositions, conditioned behavior, or lack of appropriate outlets for activity and exercise.

SIGNALMENT OF HYPERKINESIS

True hyperkinesis is often presented in adult dogs (age 3 years and older) that have not learned to settle upon reaching social maturity. Physiologic measures consist of increased heart and respiratory rates, low body condition score, and failure to habituate to external stimuli. The dogs appear agitated and reactive and cannot settle. They remain emotionally aroused in the absence of significant stimuli or for a prolonged period upon removal of the stimuli. They may not ever habituate to common household stimuli, such as appliances turning on and off or people going about their normal routines.

HISTORY

It is imperative to differentiate between behaviors that are abnormal and those that are normal but unwanted. In taking the patient's history, you should elicit an accurate description of unwanted behaviors; the rate and intensity of their occurrences; and whether the dog has adequate exercise, social interaction, and exploration. You should examine the daily management of the pet over an average 24-hour period, noting when it eats,

CONTINUES



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exercises, and obtains enrichment. You should also assess the quality of those interactions and the time the pet spends alone or confined. The way the family responds to unwanted behaviors is informative and often reveals deficiencies in social contact and physical exercise, a lack of appropriate training, the use of punishment, or an environment in which the animal has learned to use physical activity to get attention.

Discrete descriptions of the areas of concern are essential. Owners should clearly elucidate the behavioral pattern of the unwanted behavior (such as jumping on visitors, barking out the window, pulling on the leash, and not following commands). Determine any circumstances in which the dog will settle and be calm. Ask whether hiking, vigorous walks, or playtime result in a calmer, well-mannered dog. Ask questions about aggression directed toward family or visitors.

DIAGNOSIS OF HYPERKINESIS

Differential Diagnosis

- Normal behavior in a dog that lacks appropriate exercise, social contact, or mental activity
- Learned behavior through rewards for unwanted behavioral patterns
- Hyperthyroidism (rare) or other medical condition, such as allergies
- Fear and anxiety conditions
- Territorial behaviors
- Cognitive decline

If any of the above seem plausible on the basis of history or physical examination, treatment should be instituted for those problems. Details on treatment are provided elsewhere.¹⁻³

Diagnostic Testing

The performance of an in-hospital challenge has been the traditional method of diagnosis. Place the animal in a quiet location and record the physical activity (pacing, jumping, and barking) for an hour. Monitor heart rate and respiratory rate every 15 to 30 minutes. If activity and physiologic measures remain elevated, suspect hyperkinesia. After administering a stimulant (d-amphetamine, 0.2 mg/kg PO), place the dog in a quiet area. After at least 1 hour, return the dog to the testing area and monitor again. If the dog is calm and the physiologic measures are reduced, a presumptive diagnosis of hyperkinesia can be made.

An alternative method is to perform testing in the home environment. Over several days, the owner keeps a baseline journal of daily activities and activity levels rated according to a previously agreed-upon scale (such as 1–5 or low–high). The owner also records the number of disruptive behaviors that occur within 24 hours. Once the journal is completed, the owner may begin administering methylphenidate (0.5 mg/kg PO Q 8–12 H). The targeted behaviors are monitored, recorded, and ranked. If no improvement occurs or no unwanted side effects develop (increased activity, heart rate, respiratory rate) within 3 days, the dose can be increased by 0.25-mg/kg increments every 3 days to a maximum of 2 mg/kg Q 8 to 12 H until a positive response is noted or agitation increases.³ A positive response to this regimen has been used as a presumptive diagnosis, although owner bias may influence results.



Limitations of Testing

Even testing is fraught with distortions and inaccurate diagnosis. Hyperactivity, impulsivity, and attention problems are common in puppies and adolescent dogs that have no evidence of concurrent neurologic or physiologic abnormalities. In addition, owners are often completely unaware that excitable, persistent, and alert behaviors may be part of breed disposition⁴ or reinforced by owner behavior.

A recent study showed that there was a substantial effect of age and training on attention skills in dogs; younger dogs showed lower attention scores, and small dogs were generally more active and impulsive than larger dogs.⁵ Owners who do not understand the basic precepts of training may be unable to teach their dogs appropriate “house manners”; as a result, they become frustrated and assume that the problem lies within the dog, not with the environment and interactions provided. In addition, attempts to change behavior using punishment-based techniques often result in anxiety, stress, and an increase in attention-seeking behaviors in an attempt to decrease the stress associated with human interactions.

The use of medication is inappropriate without a diagnosis; is not without risk, especially in dogs without true hyperkinesia; and may result in undesirable signs: tachypnea, tachycardia, and increased motor activity. Moreover, inappropriate diagnosis and treatment place dogs at risk for relinquishment or relegation to the back yard or crate, which compromises their welfare.

TREATMENT

Few dogs are diagnosed with true hyperkinesia. Thus, in most cases in which an owner reports hyperactivity, the initial treatment should address the need for adequate daily exercise and stimulation. Encourage owners to consider the following:

- Use control devices (head halters and no-pull harnesses) to allow walks to take place.

- Provide mental engagement using puzzles and food-dispensing toys.
- Refrain from using punishment so that anxiety associated with owner interactions decreases.
- Identify the desired behaviors rather than focusing on what the dog must “stop” doing.
- Attend training classes that focus on reinforcement to teach the desired responses.
- Assess behavioral changes at 2- to 4-week intervals and schedule rechecks as necessary.

Use of these behavioral changes generally results in improvement.

See Aids & Resources, back page, for references and suggested reading.

DX & TX AT A GLANCE

- Perform physical examination to assess physiologic measures.
- Take an extensive history.
 - Determine daily activities and exercise.
 - Determine training performed.
 - Determine undesirable behaviors.
- Begin treatment with control exercises.
- Use medication trial if no improvement is noted.

