

Urine Marking in Dogs

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Recently, a client complained that her male dog continues to mark her home with urine despite being neutered. Why is the urine marking continuing? What can be done?

Urine marking is part of the normal scent-marking behavior displayed by both male and female dogs.¹ It develops after sexual maturity and usually is manifested by frequent voiding of small amounts of urine.² Intact male and female dogs use urine to attract mates, but even neutered and spayed animals will exhibit this behavior. It is reported most frequently by owners of male dogs.

Urine is used to mark territory, leaving a “message” after the animal has departed the area. Dogs will investigate urine marks of other dogs and may mark over them. While most urine marking takes place outdoors, it can occur inside the home.

Causes of Urine Marking

Urine marking can have many underlying motivations influenced by the home environment, social situation, and other animals in the home. Marking commonly occurs in response to new objects, novel odors, or to the sight of dogs outside. Some dogs may mark unfamiliar places such as the veterinary clinic or other homes.

In multiple dog homes, marking may occur in response to social changes/conflicts between dogs. History taking should focus on agonistic interactions between dogs including threats, avoidance, and actual fighting. In some situations, a dog may urine mark due to anxiety. Careful questioning is needed to determine the

cause of the anxiety. Suspected causal factors include changes in owner scheduling; the addition of new family members (human or other pets); and changes in exercise, activity, or interactions. Urine marking is not commonly seen as part of a separation-related distress response.

Diagnosis of Urine Marking

Not all indoor elimination is urine marking. Medical problems such as cystitis, kidney dysfunction, endocrine abnormalities, or other metabolic problems must be ruled out if signs such as polyuria, dysuria, and polydypsia are present, or if indoor elimination has a sudden onset. Geriatric onset of house soiling or urine

continues

marking could be associated with cognitive changes.

History taking should include when and where the urine is found. The location of urine is one diagnostic criterion; it is most often found on a vertical surface. The amount of urine deposited while marking is normally small, often as little as a few drops.³ A large amount of urine deposited indoors usually signals house-training issues or disrupted access to the appropriate area for elimination, separation anxiety, or a medical problem.

The deposition of urine for marking is usually independent of outdoor access. A dog that is highly motivated to urine mark often will nearly empty its bladder outdoors, but due to residual amounts remaining in the bladder, may then urine mark inside. Although some dogs will seek out unused areas of the home, marking will usually occur in prominent locations.

Treatment of Urine Marking

Treatment includes castration, supervision, counterconditioning, attention to underlying anxiety, hormone therapy, and, in selected instances, distraction/punishment.

It is also important to clean soiled areas adequately. Products with enzymatic components seem to work best, and repeated treatment may be necessary to remove all staining and odor.

Castration

Two studies have looked at the effects of castration on urine marking. Hopkins found resolution or notable improvement in marking behavior in 50% to 60% of neutered dogs.⁴ In telephone interviews with owners, Neilson found that in 25% to 40% of dogs castration was effective in reducing the incidence of urine marking by 90%. In 60% to 80% of dogs, improvement was reported at the 50% level.⁵ Hopkins et al reported some dogs experienced a rapid decline in marking behavior following castration, while others showed a more gradual change.⁴ Both

studies found that the decline was not related to the age of the dog at castration.

Supervision

Close supervision of the dog is an integral part of changing marking behavior. A leash or perhaps a collar with noisy bells can help the owner monitor the dog's location. When it approaches an area where it has marked in the past, the dog should be distracted, asked to perform a task, and rewarded. For some, engaging in play at the location may help change its association from marking to something else (play). Over time, these tactics may prompt the dog to associate a different outcome or task with the location.

Addressing Anxiety

Many dogs that mark are anxious, so creating predictable routines and teaching the dog how to relax upon a verbal command can be useful. Owners can establish a command-response relationship where the dog earns all things by performing a task and waiting calmly for what it wants. Teaching a dog to settle or relax in a set location (bed, mat) can help the dog learn to associate calm and quiet behaviors with good things and rewards. In some cases, a head collar can facilitate supervision and teaching relaxation. Daily exercise and attention at regular times also help a dog feel calm and relaxed.

Counterconditioning

Counterconditioning can be useful if the owner can predict what circumstances elicit the marking behavior. Common circumstances include new objects, company, and visits to unfamiliar homes. The dog is then taught a competing response, such as sit/stay (a behavior that is incompatible with leg lifting and urine marking), for a food or play reward. If this is done repeatedly, the desire to urine mark in response to these situations may decrease and the dog may cease urine marking.

Distraction/Punishment

In some cases, distraction or punishment can be effective, but this requires excellent supervision of the dog so that the behavior can be interrupt-

ed as soon as it begins. This method should be successful after a few applications, but only if it is used every time the dog attempts to urine mark. However, it may only succeed in preventing urine marking in the presence of the owner.

In some situations, environmental punishment using motion sensors that activate citronella collars, urine sensitive alarms, or scat mats may keep the dog away from areas it chooses to mark with urine. Harsh physical punishments should be avoided; these can increase anxiety, which is often a component in marking behavior, and thus may lead to fear of the owner and aggression. Unless pets are reprimanded immediately (within 1 second) when showing signs of marking behavior, punishment is not effective. If the dog has already eliminated, punishment is contraindicated. Inappropriately applied punishment may result in fear of the owner or defensive aggression.

Drug/Hormone Therapy

If the underlying cause of the anxiety can be identified but not corrected, medication may help. However, medication alone will usually not be effective, especially if the underlying causes have not been addressed. Commonly used medications include tricyclic antidepressants and selective serotonin reuptake inhibitors.

Another method of treatment that has been used in the past is progestin therapy. However, progestins are not approved for behavioral therapy and the potential side effects can be life threatening. Potential problems include diabetogenesis; adrenal cortical suppression; bone marrow suppression; and, in females, gynecomastia, mammary gland hyperplasia, adenocarcinoma, endometrial hyperplasia, and pyometra.⁷ Therefore progestins should only be used as a last resort.

In many cases, marking can be greatly diminished by a combination of these strategies, but some dogs may still mark in selected circumstances. ■

See Aids & Resources, back page, for references, contacts, and appendices.