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## **FELINE MARKING BEHAVIOR**

### **What is spraying?**

Spraying is the deposition of small amounts of urine on vertical surfaces. The spraying cat may be seen to back into the area, the tail may quiver, and with little or no crouching the urine is released. Some cats will also mark their territory by leaving small amounts of urine or occasionally stool on horizontal surfaces.

### **Why do cats "mark" with urine?**

Cats mark the locations where they live or which they frequent in many ways. Cats will mark with scent glands on their feet, cheeks, face and tail as well as with urine. Deposition of an odor communicates that the animal was in a location long after that animal has gone. Cats will mark their territory to signal "ownership" and to advertise sexual receptivity and availability. Marking can occur due to other cats in the vicinity either outdoors, or among cats that live in the same household. Cats will also mark their territory when they feel threatened or stressed. This can occur with a change in household routine, compositions, living arrangements, new living locations and other environmental and social changes. Because marking is a method of delineating territory, urine is often found in prominent locations and near windows, doors and heavily traffic areas in the home.

### **Which cats are more likely to urine mark?**

Both male and female cats can mark with urine. Urine marking is most common in intact (non-neutered) male cats. When an intact male sprays urine, it will have the characteristic "tom cat" odor that is strong and pungent. Neutering will change the odor, and may reduce the cat's motivation for spraying, but approximately 10% of neutered males and 5% of spayed females will continue to spray. While cats in multiple cat households are often involved in spraying behaviors, cats that are housed singly may spray as well.

### **Instead of spraying, I am finding multiple locations of small amounts of urine. What does that mean?**

Some cats will mark their territory with small amounts of urine (and on rare occasions, stool) in various locations. These locations can be similar to those for spraying, i.e. near doors, windows, new possessions in the home or favored locations, but may occasionally be found on owner's clothing or other favored possessions. However, small amounts of urine deposited outside of the litterbox can also be an indication of numerous other problems including diseases of the lower urinary tract. Similarly stool

found outside of the litter box can be due to a multitude of causes including colitis, constipation and any other condition leading to difficult, more frequent or uncomfortable elimination. As with any other elimination problem, a complete physical examination and laboratory tests are necessary to rule out each physical cause.

### **How do would I treat a spraying or marking problem?**

As with all behavior problems, the history will help determine treatment options. The location of the urine marking, the frequency, duration and number of locations are important. The number of cats both inside and as well as contacts outside of the home should be determined. Changes in environment, social patterns of humans and animals, and additions (people, pets, furniture, renovations) to the home should also be examined.

If the cat is not already neutered, and is not a potential breeder, castration is recommended. A urinalysis should be performed to rule out medical problems. The location of the urine spots should be determined. Is the urine found on walls, 6-8 inches up from the floor, or are there small urine spots found in multiple locations?

Treatment is aimed at decreasing the motivation for spraying. If the problem is cats outside of the home, then the best options are to find a way to deter the cats from coming onto the property or prevent the indoor cat from seeing, smelling or hearing these cats. It may be helpful to house your cat in a room away from windows and doors to the outdoors, or it may be possible to block visual access to windows. When you are home and supervising you can allow your cat limited access to these areas. It also may be necessary to keep windows closed to prevent the inside cat from smelling the cats outside, and to use odor neutralizers on any areas where the outdoor cats have eliminated or sprayed. If the problem is due to social interactions inside the home, it may be necessary to determine which cats do not get along. Keep these cats in separate parts of the home with their own litter and sleeping areas. Reintroduction of the cats may be possible when they are properly supervised. Allowing the cats together for positive experiences such as feeding, treats and play sessions, helps them to get used to the presence of each other, at least on a limited basis. However, when numbers of cats in a home reach 7- 10 cats you will often have spraying and marking.

### **I've cleaned up the spot but the cat keeps returning to spray. What else can be done to reduce the problem?**

Since the purpose of spraying is to mark an area with urine odor, it is not surprising that as the odor is cleaned up, the cat wants to refresh the area with more urine. Cleaning alone does little to reduce spraying. Cats that mark in one or two particular areas may cease if the function of the area is changed. It is unlikely that cats will spray in their feeding, sleeping or scratching areas. Some cats are less likely to spray if a little of their cheek gland scent can be placed in the sprayed area. This may change the area to one of cheek gland marking and since the odor remains the desire to spray may be greatly reduced. A commercial product containing feline cheek gland scent has been recently introduced in Europe and is now available in the United States. The product is called

Feliway and is a synthetic pheromone designed to mimic cheek gland secretions from a cat. When sprayed on areas where cats have sprayed urine or on those areas where it can be anticipated that the cat is likely to spray, it may decrease the likelihood of additional spraying in those areas. The scent of the pheromone seems to calm the cat and may stimulate marking in the area by bunting (rubbing with their cheeks), rather than urine spraying. Feliway has also been used to calm cats in new environments. You can perhaps get the same effect by rubbing a cotton ball or gauze square on your cat's cheek or chin glands and then rubbing the scent onto the previously sprayed areas.

Where practical, a good compromise for some cats is to allow them one or two areas for marking. This can be done by placing a shower curtain on the vertical surface, tiling the area, or by taking two plastic litter boxes and placing one inside the other to make an L-shape (with the upright surface to catch the marked urine). Another option is to place booby traps in the sprayed areas, but spraying of another area may then develop,

### **Are there any drugs that are available to treat this problem?**

Over the years many pharmacological means have been tried to control spraying behaviors. The choices have focused on the theory that one of the underlying causation for spraying and marking behaviors is anxiety. For that reason, anti-anxiety drugs such as buspirone and the benzodiazepines, antidepressants such as amitriptyline, clomipramine, fluoxetine and paroxetine, and female hormones have all been tried with varying degrees of success. None of these are presently approved for use in cats, but your veterinarian can discuss with you the potential indications and contraindications of drug therapy for your cat. Of course, if the underlying reason for spraying is not addressed, the problem is quite likely to occur when the drug is withdrawn.