

faces like floors, clothing and carpets. The amount of urine expressed usually is large.

Q. Why do some cats "mark" with urine?

A. Urine marking is an unspoken "turf talk" way of communication among cats. The spraying cat marks his territory by releasing hormones called pheromones in its urine. These pheromones can be "read" by other cats to alert them of the spraying cat's reproductive status, desire to attract a mate, or need to declare his turf.

"Pheromones are akin to fingerprints in humans, and their presence is a calling card of sorts to other cats," says Dr. Dodman.

Adds Dr. Bain, "If you read between the lines, cats who are spraying are doing so due to territorial anxiety. They somehow feel the need to mark their property, their territory. If they were more secure, they would have less of a need to mark."

Q. How is this condition clinically diagnosed?

A. A veterinarian will conduct a physical examination and take a detailed history from the owner to rule out possible medical causes such as feline urologic syndrome or urinary tract infection. Blood and urine tests and other diagnostic procedures may also be ordered.

"It's important to note any changes in the household, such as the arrival of a new pet, the departure of a family member, or outside factors such as a neighborhood cat who 'invades' the backyard, making the indoor cat feel threatened or stressed," says Dr. Bain.

Q. How can this unwanted behavior be treated?

A. Neutering will stop the spraying within three weeks to three months among 90 percent of male cats and spaying females will cease this behavior in about 95 percent of female cats, says Dr. Dodman.

"Intact males can smell a female in heat down the road and want to get out, and a female in heat inside a

For the first time, the use of Prozac to treat urine-spraying behavior in cats was conducted in a double blind study. Here are the details of that breakthrough study that was published in the Dec. 1, 2001 issue of *The Journal of the American Veterinary Medical Association*.

"Effects of a selective serotonin reuptake inhibitor on urine spraying behavior in cats," by Melissa Bain, DVM, Benjamin Hart, DVM, Patricia Pryor, DVM, and Kelly Cliff, DVM.

Goal: To determine the effectiveness of prescribing Prozac to urine spraying cats.

Participants: 17 neutered cats who have demonstrated inappropriate urine spraying for less than one year.

Procedure: Owners recorded the number and location of their cats' urine spraying each day for two weeks. Cats who vertically marked three or more times a week were admitted into the study. Half were treated with Prozac and the other half received a fish-flavored liquid placebo daily for eight weeks. Owners recorded daily urine marks during the eight weeks plus four weeks after the medications and placebos were no longer given.

Results: Cats receiving Prozac, on average, reduced the number of urine spraying incidents from 8.6 times to less than once per week. Cats receiving placebos, on average, slightly decreased spraying incidents from 7.8 to 5.5 times per week after eight weeks with the majority spraying more in the four weeks following the conclusion of the study.

Conclusion: The use of Prozac to treat urine spraying considerably reduces the rate of this inappropriate behavior.


house knows her biological job is to declare her availability. In frustration, she may spray inside the house," says Dr. Dodman. "With the absence of these sex hormones as a result of spaying and neutering, actions and events that once loomed big in the mind of the cat now seem less exciting and more trivial."

For sterilized cats who persist in spraying, the best approach calls for a three-pronged attack: medication, behavior modification, and environmental changes.

"What we preach is that drugs alone do not work over the long term," says Dr. Bain. "Drugs work much more effectively when used in conjunction with behavioral and environmental modifications, the hallmarks for treating inappropriate urine marking."

Daily cleaning of urine marks with an enzymatic cleaner (such as Nature's Miracle or Anti-Icky Poo),

daily cleaning of litter boxes (ideally one litter box per household cat plus one), and washing litter boxes weekly with mild soap, rinsing with warm water and allowing to air dry often helps. So does blocking windows or other views where the antagonized indoor cat may see or interact with outdoor cats. Medications such as Prozac should be introduced when behavior modification and environmental alternations do not reduce the frequency of urine marking.

"The purpose of giving medications is to stabilize a cat's mood and reduce anxiety," says Dr. Dodman. "You can build a cat's confidence, reduce his anxiety, and remove his reason to spray psychologically with medications like Prozac." 

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