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Education: 1982, BS in biology at St. Andrews College
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Co-founded the Carolina Veterinary Specialists-Animal Emergency & Trauma Center in Greensboro in April of 2001 with Dr. Wendi Wells. Dr. Clark has practiced small animal emergency and general medicine in North Carolina since 1988 and was pleased to join the team at Adams Farm Animal Hospital part-time in March 2015.

Feline Inappropriate Urination

Inappropriate urination is defined as urination outside the litter box

About 55% of the time, this behavior is related to an underlying disease in the cat. Therefore, it is vital to have any cat with this behavior examined by a veterinarian and tested for metabolic diseases such as diabetes, organ system diseases such as kidney or liver disease, as well as for urinary tract diseases. Blood tests, a urinalysis, and abdominal radiographs (x-rays) can be done during the office visit and often determine the cause of the problem immediately. The remainder of time, inappropriate urination involves a behavioral issue.

Urinary tract diseases in cats are often lumped into a catchall category often called "Feline Lower Urinary Tract Disease/FLUTD," which actually encompasses multiple disorders that present with similar symptoms. Cats may strain inside or outside the litter box, vocalize when straining, lick their genitalia, pass bloody urine, or may become completely unable to urinate and develop nausea, vomiting and depression. Cats who develop complete urethral obstruction and cannot pass urine will develop acute kidney failure and die within 72 hours without emergency unblocking and treatment. Diseases in this category include crystalluria (cats with crystals in their urine), bladder stones, interstitial cystitis, bacterial infection in the urinary tract, and, rarely, bladder cancer in geriatric cats. By far the most common maladies are crystals or stones in the urine, and they are potentially the most deadly, especially in male cats because the diameter of the urethra is so tiny that obstruction can readily occur.

While no one clearly understands why these elements occur so frequently in cat urine, we have learned that increasing fluid intake by feeding more canned food, feeding diets lower in magnesium content, and decreasing stressful living conditions can greatly reduce the risks of recurrence. Obese cats, cats that eat only dry food, cats in multi-cat households and cats that are chronically stressed are predisposed to the development of FLUTD. Bacterial infections alone are not terribly common in young healthy animals, but can occur in geriatric cats or other cats with poorly functioning immune systems.

The final disease in this group is called interstitial cystitis/urethritis, which is a chronic, painful inflammatory process, the cause of which is unknown. The protective layer (glycosaminoglycan/GAG layer) inside the bladder wall diminishes and apparently allows substances in the urine to pass into the bladder wall causing edema and inflammation. This syndrome is also seen in women and often responds to nutritional supplementation

of glucosamine-chondroitin complex. On a positive note, recurrence of the acute symptoms of dysuria (difficult urination) declines with age in cats.

Behavioral issues occur more frequently in multi-cat households and can be complicated to sort out. Cats do not by nature live in large groups and forcing them to do so can create a great deal of stress, the result of which can be urine marking, among other behaviors. Urine marking is characterized by horizontal spraying: a male or female cat holds the tail vertically, twitches the tail, backs up to the object and sprays it horizontally. This posture is as

apposed to vertical urination to empty the bladder. Behavioral house soiling can also occur from simply eliminating normally in places other than the litterbox.

In order to help you improve your cat's undesirable behavior, your veterinarian will want to take a detailed history and may request that you make several changes in your household. The initial approach is to examine the accessibility and desirability of the current litterbox(es). A normal cat spends about 60% of its time in the litterbox covering excrement, while problem cats spend only about 30%. When the litterbox is unacceptable, the problem cat may not cover excrement, may rarely scratch after elimination, may paw the air or the floor, or shake their paws instead.

Cats can associate pain and unpleasant experiences with location, so avoidance of the litterbox can quickly ensue after a bad experience or a series of negative occurrences. Examples might be fearful events such as seeing a stray cat through a window while using the litterbox, raking after a declaw, being pilled directly after elimination in the box, or a hearing a frightening noise while in the box. Older cats may avoid the litterbox because of chronic pain issues, and providing flatter pans or baking sheets may help. Cats are generally tactile and prefer particular litter substrates, and they are also very fastidious and often prefer that the box be scooped once or twice daily. If boxes are too infrequently changed, noxious odors can build up (think of using a Port-o-potty at a hot summer event!). Scented litters may also be undesirable, and some cats may prefer clumping or clay litters over others. Ideally there should be one litterbox per cat plus an extra one to ensure clean litter, privacy, and optimal locations for each cat. I have five cats and have two mortar mixing boxes of litter along with three covered jumbo boxes in different locations in my basement. The lower walled, larger boxes allow plenty of room for the older cats, and the covered ones provide privacy. Placing them in various locations prevents guarding of a box by a dominant cat.

Veterinarians are highly trained and equipped to help solve the complex problem of inappropriate urination so that your cat can live a content and healthy life in its human environment.

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