



Feline Inappropriate Urination: forget the box and focus on the felines

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Feline inappropriate elimination is still a top behavior problem among our feline patients and it continues to be the #1 reason families relinquish their cats.¹

Taking the inappropriate elimination history is the first step in directing treatment.

- Determine the onset of the inappropriate elimination and whether the timing coincides with an event in the owners lives (even if this event seems insignificant to the owner).
- Identify the locations of the elimination and whether there is a common substrate that the cat appears to prefer instead.
- If the elimination has been going on for some time, ask the owners why they are presenting the cat now? (are they getting new carpet, selling the house, etc.)

In a multi-cat household it may be difficult to determine who the culprit of the elimination is.

- Have they seen this cat actually eliminating outside the box?
- Have they seen this cat trying to cover up the inappropriate elimination?
- Just because they have witnessed this cat performing either of these behaviors does not rule out that this is the ONLY cat participating in the inappropriate elimination.

How do we determine who is (are) the culprit(s)?

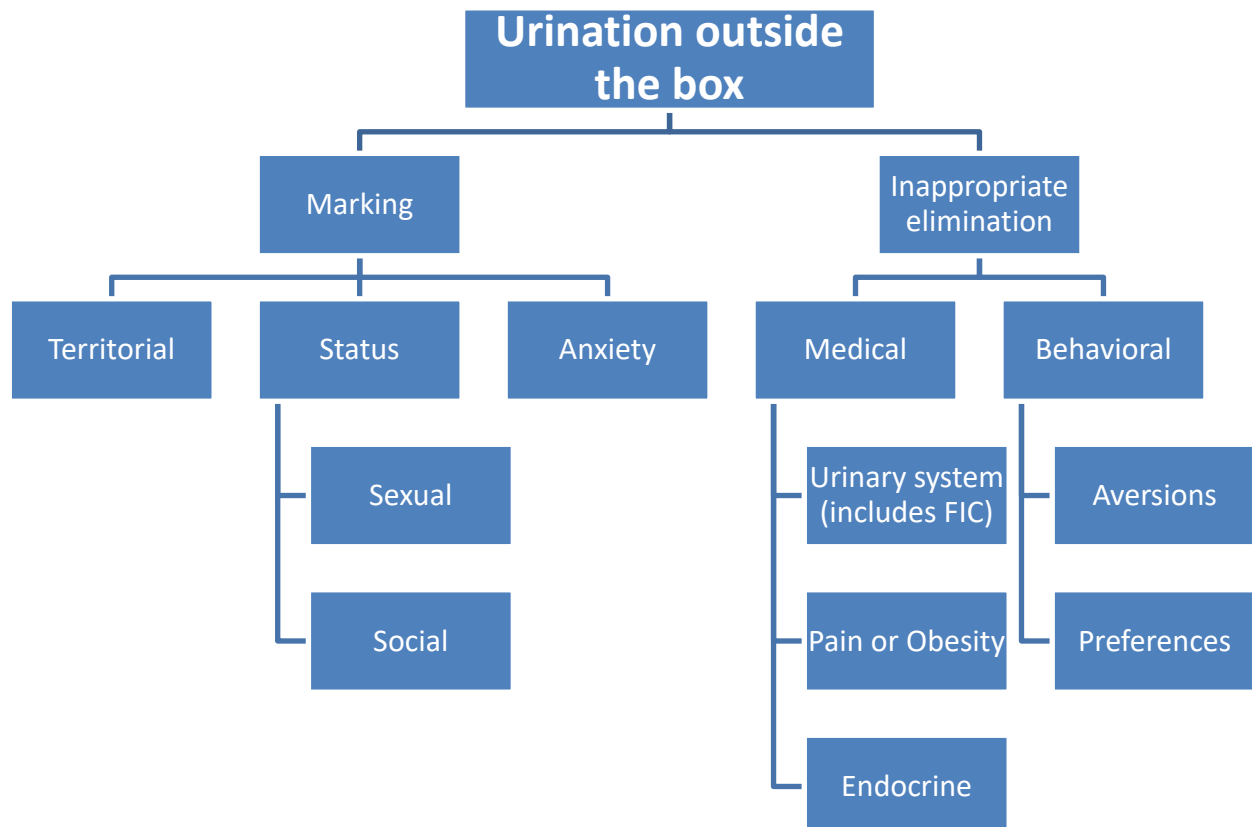
- You can segregate the identified cat in their own area with all of their resources for several days and see if the elimination outside the box ceases or only occurs in the room where this cat is isolated.
 - However, segregation of this cat may solve some underlying social issues going on and thus cause other culprits to stop eliminating outside the box during this time as well.
- Video the location where inappropriate urination occurs to determine the culprit(s).

Assess the social history:

- What is the human composition of the household?
- Is it a quiet house or a busy house?
- Are there frequent visitors?
- How many and what type of other animals are in the house (do not assume that you know all the animals currently living in the house)?

- Is this cat seen resting next to another cat (bodies touching) or grooming another cat (alogrooming) or being groomed by another cat?
 - Resting near other cats and grooming, or being groomed by, others cats are signs of an affiliative positive relationship.
 - Remember that just because there are signs of affiliative behavior that does not mean there are not conflicts within the home. (Do you love your siblings? But, do you also fight with your siblings on occasion?)
- Do you see hissing, growling, caterwauling or chasing between this cat and another cat (one in the household or living freely outside the home)?
- Are there more subtle signs of conflict such as one cat blocking access to another cat to resources?
 - Resources include food, water, litter boxes, resting spots, hiding spots, toys, owners, etc.
- If visitors come over to your home, will they know that you even own this cat (in other words does this cat hide when visitors are over)?

Diagnostic tree for urination outside the litter box:



Is it marking or inappropriate urination?

Marking	Eliminating
Vertical surface	Horizontal surface
Small volumes of urine	WNL or large volumes of urine
Social significance of targets	Possible substrate preference
Will still use the litter box for urination	+/- may still use the litter box at alternate times

NOTE: the above signs are TYPICAL of marking or eliminating, but may not always apply to every individual case.

Is it medical, behavioral or both?

- What may start as medical may then remain as behavioral once the underlying medical etiology has been addressed.
- Physical examination, including orthopedic exam
- Minimum database: CBC, Chemistry panel, total T4, free T4 by ED, Urinalysis
- +/- culture if indicated
- +/- Abdominal radiographs and ultrasound
- +/- spine and lower extremity radiographs

Medical differentials

- Anything that influences the frequency, urgency or quantity of urine
 - Infectious
 - Calculi
 - Renal disease
 - Hyperthyroidism
 - Diabetes
- Anything that influences the ability to access the litter box
 - Osteoarthritis
 - Obesity
- Feline Interstitial Cystitis

Feline Interstitial Cystitis

- The true cause remains unknown.
- More likely in males, obese and pedigreed².
- Sickness behaviors are more likely to be seen in those cats where subtle environmental changes occur. Something that may seem insignificant to the owner (shift in work schedule by 1 hour) can cause significant effects for the cat³.

Is it a behavioral preference or aversion?

- Does there appear to be a substrate preference to all the eliminations outside the box?

- Offer multiple litter boxes with different types of litters to assess for a substrate preference.
- Offer a litter box lined with a rubber backed bathroom throw rug if this appears to be a preferred substrate.
- Location preferences may occur due to social dynamics (one cat blocks access to the location) or environmental factors (litter box is placed next to a noisy washing machine).

There appear to be consistent preferences:

- Kittens may develop a substrate preference early on based on what was available at the time they were transitioning from neonate (where mom stimulated urination and defecation by licking their perineal area) to juvenile.
- Most cats prefer unscented clay clumping litter.⁴
- Most cats prefer uncovered boxes (but most owners prefer covered).
- Most cats prefer unlined boxes.
- Traditional litter boxes are not big enough for the average house cat.
 - The box should be 2.5 times the length of the cat.
 - Plastic totes or under the bed sweater boxes make great litter boxes.
- A litter box should be scooped at a minimum of 1-2 times daily, completely dumped out with the box cleaned with soap and water and new litter placed in every 1-2 weeks and the litter box itself replaced once yearly.

How many boxes do we need?

- N (Number of cats in the household) +1??? This number is truly arbitrary.
- It depends on how many cats you have, where they hang out, and how many rooms and stories your house has.

Urine marking

- This is a perfectly NORMAL (but unwanted) behavior.
- Urine marking is used as a means of communication.
 - Territory
 - Sexual or social status
- May be performed as a means to relieve anxiety or frustration.
- Neutering and spaying reduces urine marking by 90% in males and 95% in females⁵.
- If it is ONLY marking, there is unlikely to be any role of lower urinary tract disease in the etiology and therefore no need for any medical treatment⁶.

Treating the social dynamics:

Is the cat truly a social being?

- Cats living together in the wild are composed of related females (Matrilineal organization).
- Males will leave the group they were born into at approximately 2-3 years of age to find their own territory and females to mate with.
- A multi-cat household usually comprises multiple cats that are not related and that the OWNER chose to live together.
- Enough territory is needed so that if cats do not wish to interact they do not have to.

Does the owner see any of the following?

- Overt agonistic interactions
- Allo-grooming
- Resting in close proximity to one another
- Blocking access to resources (subtle or overt)
- Hair loss (could be from fighting or over grooming as a result of stress)
- Drastic differences among body condition scores between the cats (one cat may be purposefully eating more food than the other cats in order to prevent them accessing this resource).
- Excessive self-grooming or lack of self-grooming can both indicate stress
- Cats consistently hiding or seeking high places to be away from other cats (or even people).

Creating harmony in a multi-cat household:

- Increase the amount of useable territory
 - Vertical spacing via shelves and cat towers
- Create separate territories for cats if needed
 - Separation can be achieved via closed doors or baby gates
- Increase the amount and availability of resources like food, toys, scratching posts, climbing towers, and water
- General enrichment for each cat
 - Multi-modal environmental modification and enrichment alone has been shown to help FIC⁷

Ancillary products which may be helpful to decrease stress and anxiety

- Pheromones (FELIWAY® MULTICAT PHEROMONE)
- Royal Canin Veterinary Diet® Feline Calm or dual indication product Royal Canin Veterinary Diet® Feline Multifunction Urinary + Calm
- Virbac® ANXITANE® (L-Theanine)

Medications- when enrichment and natural products are not enough

- Selective Serotonin Reuptake Inhibitors^{8,9}

- Fluoxetine
- Paroxetine
- Tricyclic Antidepressants
 - Clomipramine
 - Amitriptyline- no longer recommended¹⁰
- Does transdermal application of psychotropic medication work? Unfortunately, they do not¹¹

The Association of Feline Practitioners and International Society of Feline Medicine have collaborated and developed guidelines for diagnosing and solving house-soiling behavior in cats. This is a great resource document for clinicians and clients.

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