OUT OF THE BOX

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There are around 83 million cats in the US alone and most cat owners have more than one in their home. Add to that the statistic that many cats end up in shelters, outside or euthanized due to litterbox related problems (Salmon et. al 2000) and we’re looking at a large number of felines who are “out of the box”. As veterinary professionals the more we know about helping get cats into the box, the more likely we are to keep these patients in our practices.

Feline patients will often present directly to the clinic for urination or defecation outside of the litterbox. Veterinary team members may also find this as a secondary problem when collecting a patient history. Many clients will respond with an answer of normal, or no change when asked how the cat’s urination or defecation are. Asking a detailed history where the client describes the cat’s litterbox use including frequency, if the cat buries its urine or stool, how frequently they have to scoop the litterbox and other specific questions can yield the information that the owner considers non-relevant. Clients may divulge that the cat never uses the box and hasn’t for 6 years, the cat only urinates in the box and defecates on the cement floor next to the box, or that the cat defecates in the box but urinates in the bath tub. All of this information is helpful when we’re working to get a cat back into the box.

Definitions, Medical Evaluations & Distinctions

Depending on which texts you read there are a few slight variations in terminology when it comes to cats out of the box. In some texts housesoiling refers to urination or defecation anywhere the owner doesn’t want it to be such as on furniture, flooring or any area that is not the litterbox. From there it can be broken down into inappropriate toileting or marking (urine or feces). The term used to describe urine outside of the box is periuria and the term for feces outside of the box is perichezia.

No matter which type of problem is suspected the patient should always receive a physical exam, have routine lab testing (CBC, blood chemistry, urinalysis by cystocentesis with optional culture if bacteria is found), and radiographs and/or ultrasound evaluations of the kidneys and bladder. In male cats who are urine marking it is important to examine the penis for the presence of barbs and perform testosterone testing to rule out the potential of a retained testicle or a remnant of testicular tissue still present post neutering. Urinary tract infections, uroliths, kidney stones, feline interstitial cystitis and neoplasia can show up as a toileting or urine marking problem. Defecation out of the box may related to inflammatory bowel disease, lymphoma of the GI tract or other GI related diseases. These disease processes are non-responsive to behavioral treatments and complicate behavioral diagnoses. If not ruled out prior to a behavior consultation the veterinary behaviorist may refer the animal back for additional testing or work the animal up in their practice prior or in conjunction with treatment.

Behaviorally, it is important but sometimes tricky to make a distinction between a cat who is inappropriately toileting versus a cat who is urine marking. A cat who is toileting inappropriately is choosing to urinate or defecate in a different location than the litterbox. They may use the same location repeatedly, the same type of substrate (carpet, potted plants, tile etc.) or they may vary their location based on where they are in the home. Urine is usually found in large, full void volumes on horizontal surfaces. Defecation is often complete and found in areas near the box or in areas where urination is also occurring. Patients may exhibit periuria or perichezia or they may exhibit both. Urine marking is where the cat is leaving a urine based “post it” note to communicate via the visual, scent and chemical message in the urine often on a vertical surface. Urine marking can be small volume (tiny, barely noticeable drops) or it may occur in larger volumes and even full volume urinations (cat starts urine marking then completely void). Urine marking can also occur on horizontal surfaces.
When inappropriate toileting is occurring the cat is often providing clear information that she does not like one or a combination of the following things: the litter, the box, the location. She could also be communicating that she can’t get to a litterbox she wants to use. Access to litterboxes can be hindered by noises, the animal’s physical ability to get to the box (jumping over gates, going up and down stairs), or interaction from another animal in the home (dog who likes to chase the cat or another cat aggressing this cat). Learning history also can’t be ignored when it comes to inappropriate toileting. Cats that experienced pain, discomfort or fear associated with the litterbox may refuse its use in the future. This can be seen with urinary tract infections, stones, GI disease, punishment associated with toileting and even declawing.

Urine marking occurs as a means to communication between cats (even if there is only one cat in the home). It communicates territory, sexual availability, and agonistic or threat behavior between cats. It can also communicate fear or anxiety and may increase during times of stress in the household. Areas that are selected for urine marking are often in areas where cats are passing through (hallways, doorframes, furniture in common areas), it may occur on items that are new to the environment, or items that smell like other animals/novel scents. Urine marking is more likely to occur in intact cats, during the spring (or when owners open windows to the outside) and in multicat homes.

Triage

Good triage starts with excellent history collection so schedule extra time for these appointments as you will want to ask more questions that usual about the home, litterboxes, and interactions between animals/humans in the home. Using a technician to go into the home with the client if the DVM cannot is an added benefit. The goal of a home visit is to evaluate the level of damage to the home, litterbox situation and clean up as well as to provide basic management information to the client. Information about the relationships between the cats and observations of their behavior towards each other can be invaluable to the clinician. Assessment of patient mobility and ability to access resources is also helpful.

Basic Triage Checklist:

- How many cats are in the home?
- How many cats are outside of the home? Stray? Feral?
- 1 box per cat plus 1
- Boxes in multiple locations and on multiple levels in the home
- Boxes should be 1.5 times the length of the cat
- Are they covered or uncovered?
- What type of litter is being use?
  - How frequently are the boxes washed and what is used?
  - How frequently are they scooped?
- Where are food and water stations located?
  - What food is fed and how are the cats fed?
  - What foods do the cats like (helpful for medicating)?
- Where does the owner find urine or stool out of the box?
  - How frequently in that location?
  - What is used and how does the owner clean the location?
- What toys and items do the cats like to interact with?
- Which cats groom each other? Which cats sleep/rest touching each other?
- Which cats aggress each other and to what level (hard stares, hissing, spitting, fights etc)?

Basic Management for Both Diagnoses

For both inappropriate toileting and urine marking complete clean up is essential. Use of a good enzymatic cleaning product used according to its directions is crucial. These products eliminate the odor and bacterial presence that draw the animal back to the location. In areas that have been hit repeatedly that are carpeted the carpet may need to be pulled up, padding removed and underlayment painted with primer (Kilz) to seal out the odor. Furniture should be treated as well as walls, doorways and any areas that urine or feces has contacted.
Changing the meaning of the area is very helpful for urine marking and can be helpful with inappropriate toileting if a box is not to be placed in the area. The goal is to make the area into an eating, scratching, rubbing, drinking or play station instead of a toileting or marking area. This can be done by adding resources to the area once it has been cleaned. Changing or alternating the items found in this area can be helpful as a means of adding interest.

If there is aggression between cats in the home adding resources such as feeding stations, litterboxes and extra water bowls to various areas of the home can be helpful. Adding resources eliminates the need for animals to congregate in tight areas or pass by each other as means to access a resource. This then decreases aggression between cats as they do not need to be together. Adding shelving to tight hallways or stairs can give an “upper and lower” route of escape or travel for cats to also avoid each other as they move through the home.

Feline pheromones are also helpful in decreasing anxiety or stress as well as for helping to change the meaning of a location. The spray can be applied to locations where toileting or marking has occurred. Facial pheromones encourage the animals to bunt and flank rub on those areas instead of using it for toileting or marking (change the communication that is occurring in that area).

Scent swapping is another way to create a colony scent that helps to decrease aggression and anxiety. This colony scent can be applied to novel items and to cats after periods of time out of the home. Synthetically creating a colony scent can be very valuable when there are reclusive cats who rarely interact with the group.

**Primary Focuses for Inappropriate Toileting**

In these cases it is important to determine what the cat likes and does not like about her toileting options. A systematic approach that adds new options instead of removing current options is most successful. The addition of a new litterbox to the location being used for toileting is a first step. If a box is being used in another location you can begin a systematic litterbox trial in that location. Clients need to decide if they would like to change boxes or litters first. If the choice is boxes, a new box that does not look like the old box is added next to the new box and the current type of litter is placed into it. For three days the owner tallies “votes” cast for each box. If the majority of the votes are for the old box then a different box should be tried for another 3 days and the process repeated.

Many cat owners have two or more boxes that already look alike thus option to trial altering the litter first. A box identical to the current box is placed next to it. Inside the box is a litter that is different than the original litter. For 3 days the owner tallies the “votes”, if a majority is for the old litter then another litter is selected and the process is repeated. The goal is to find the preference of the individual who is not using the box. In multicat household’s multiple types of litter or boxes may need to be utilized based on the individuals in the home.

Training a cat for box use should also never be overlooked. Cats can be reinforced for using correct locations to encourage repetition of the desired behavior. Confinement to a restricted area can assist in the training process to decrease the potential errors made on the part of the learner. Reinforcement can occur during the burying phase or when the last drops of urine or stool hit the litter. Cats can also be reinforced for movement towards a litterbox, getting into the box and for digging.

**Primary Focuses for Marking**

Urine marking can occur during stress related to sightings of other cats outside of the home. Eliminating the access to view these cats is important as a means of decreasing problem behavior. Motion activated devices, lemon juice and citronella can be helpful in deterring cats from the property. Visually blocking access by closing blinds, drapes, adding rice paper, moving cat trees or climbing perches is also beneficial. If necessary the offending cats may need to be removed from the environment. Decreasing access for these cats to find food, shelter or other resources on the property deters them from spending time there.
Changing the meaning of locations is very important in these cases, however not all situations are easily altered. In homes where marking is extremely pervasive or has been occurring for years a spray box may be indicated. This is a box that is placed into an area that is currently heavily used for urine marking and will be left for the purpose of being an acceptable location in which to mark. Various options exist for how to set these boxes up and cats can even be reinforced for using that location for spraying. Often a paper towel or piece of cardboard can be taped to the offending location to collect marking and then applied to the inside of the spray box to encourage its use.

Management of the offending cat via segregation and then application of behavior modification for reintroduction may be necessary based on diagnoses.

Treatment with medications and/or supplements based on concurrent diagnoses can also be done in conjunction with the changes discussed above. When medications are used it is very important to monitor urine and feces to ensure there are no changes in volume or frequency and isolation of the treated cat may be necessary.