Feline Housesoiling

What advice should I give to clients who are coping with feline housesoiling issues?

Although “inappropriate” elimination (ie, failure to use litter boxes) and urine marking are normal feline behaviors, they are objectionable to human caretakers. These housesoiling issues are associated with a high rate of relinquishment of pet cats to animal shelters.

INAPPROPRIATE ELIMINATION

Most litter boxes provided to cats are too small and litter materials often bear no resemblance to dirt or sand. With inappropriate elimination, the cat completely or partially stops using the litter box for some or all elimination (urination with or without defecation) and instead targets areas of more suitable texture in which to eliminate. When cats are urinating outside the litter box, they use a squatting posture and typically pass a large amount of urine.

In one retrospective study, inappropriate urination was the most common clinical sign associated with separation anxiety in cats.1 The owner’s bed is a popular spot, for example. In addition, because the cat’s hygiene routine may change if an owner is away, this trigger needs to be ruled out as a possible cause.

Aversions & Preferences

Signs of substrate or litter box aversion include perching on the edge of the box, minimal digging or covering, shaking the paws, and exiting quickly after elimination. Causes include substrate change, box or litter type, poor hygiene, and/or possible history of a painful event associated with current litter and/or box.

Common Aversions & Preferences

Inappropriate elimination is most common when cats have:

- Substrate aversion or preference
- Litter box aversion
- Aversion or preference to litter box location

Inappropriate urination is one of the most common clinical signs associated with separation anxiety in cats.
In addition, substrate aversion is linked to texture, such as carpet, wood, or linoleum, which could be the result of early learning. Studies suggest that cats prefer a finely textured clay litter, although a multitude of substrates are available.²

Aversion to litter box location is especially likely if a noisy appliance is located near the box, if the box is difficult to access (ie, not located in the cat’s core living area [Figure 1]), or if another cat, a dog, or a family member (eg, child) is preventing easy access to the box. Location preference may not be confirmed until the box is moved to a new location and the cat continues to eliminate in the original location.

Medical Causes
Medical causes for inappropriate elimination can include any disease or condition that triggers polyuria, dysuria, diarrhea, or constipation; neurologic diseases; and any situation that produces pain or discomfort while the cat is urinating or defecating (eg, declaw procedure, tendonectomy). Likewise, any change in litter type after surgery can contribute to the problem. Arthritis, visual or olfactory impairment, cognitive dysfunction, and hyperthyroidism also are clinical considerations in elderly cats.

URINE MARKING
Urine marking or spraying is normal feline communication, regardless of the extent of indoor enrichment. However, the message behind this form of feline communication is not entirely understood. With marking, cats typically continue to eliminate in the litter box. Target areas often have social significance, including curtains near a window and owner suitcases. If urine marking is related to the presence of outdoor cats near an indoor cat’s favorite window, placing opaque film on the window or installing motion detectors outside the window could control the situation.

When marking, the cat usually stands with a raised tail, which may be twitching. Small amounts of urine pass rather than normal voided amounts. By the time the cat is presented to the veterinarian, the problem may be a combination of inappropriate elimination and marking, with large amounts of urine deposited on vertical surfaces.

IDENTIFYING THE CULPRIT
In multiscat households, more than one cat may be eliminating inappropriately and/or marking. Confining one cat can help determine which cat is the culprit, but confinement may not help with an underlying social issue. For example, the confined cat may eliminate normally because it is no longer being intimidated.

For urine marking, administering fluorescein (10 mg/cat PO) can be useful in identifying the culprit,³ whereas the use of crayons (as described by Neilson) has been successful in identifying defecation culprits.⁴ Another option, setting up a video camera, both confirms the culprit and rules out other cats or dogs in the household.

STOPPING THE PROBLEM
Treatment is highly individualized and consists primarily of litter box and environmental modification. Depending on the cause, medications may also be effective. Spaying and neutering decreases the incidence of marking by 89%.⁵

The Litter Box
Because cats have individual preferences for substrate texture, granularity, and coarseness, it is important to provide a substrate that the cat likes, including such creative options as diapers, carpet swatches, towels, and even potting soil (particularly for outdoor cats).
There should be plenty of litter boxes in more than one location in core areas where the cats live. A good rule of thumb is the number of cats in the household plus one additional box. Litter boxes can be open or covered, but the cat must have easy access into and easy egress out of the box without having an unpleasant encounter with another cat or dog.

The litter box must be scooped at least once a day and, every 1 to 2 weeks, the litter completely changed and the box washed with mild soap and water. The box should be placed in a quiet, well-lit area, away from food and water, and preferably within the location where each cat spends most of its time.

The Environment
Most cases of inappropriate elimination are treated and resolved with environmental modification alone. Soiled areas should be cleaned (see Tips: Cleaning Urine Markings) and made aversive (eg, placing upside-down plastic carpet runners with the “nubby” side up, aluminum foil, motion detectors).

To help determine the cat’s litter box preference, one or more “control” boxes can remain unchanged while introducing another 1 or 2 different boxes. For example, a small covered box filled with crystal litter might serve as the control while a large open plastic storage box filled with scoopable clay litter could be introduced as an optional box. Depending on available space, the boxes can be placed closely together or in separate rooms. The owner should keep a log of which box or boxes the cat prefers.

As previously mentioned, if an indoor cat sees and/or smells outdoor cats, this can contribute to urine marking, which can be minimized by taking simple measures (see section Urine Marking).

Pharmacologic Treatment
Medication is often warranted for urine marking. Determining the ideal medication is based on the cause of the problem (eg, anxiety), the cat’s health, pertinent underlying social interactions, owner compliance, and expense (Table).

The more common medications are available in less-expensive generic forms. It is important to note that transdermal delivery of these medications is less effective than the oral route.7,8

After 3 months of “good behavior,” often defined by the owner, gradual withdrawal of medication by 25% q2–4wk while watching for an increase in urine marking can be attempted. If the marking
resumes, the medication should be reinstated at the previous dose. It is important to note that many cats that mark may need medication indefinitely.

Because use of these drugs in cats is off-label, however, the owner's written consent is required. The informed consent form should explain how the drug works and list possible side effects.

Other Alternatives
Alternative treatment for feline housesoiling includes installation of cat enclosures and fences. Enclosures can ensure a cat’s safety and provide outdoor access, while fences keep pet cats safe inside the yard and stray cats out. Boarding the cat can also give the owner time to start managing the problem and start the cat on medication.

See Aids & Resources, back page, for references & suggested reading.

### Table. Medications for Treating Feline Housesoiling

<table>
<thead>
<tr>
<th>Medication</th>
<th>Dosage</th>
<th>Comments</th>
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<tr>
<td><strong>Selective serotonin reuptake inhibitors</strong></td>
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<tr>
<td>Fluoxetine (Prozac, prozac.com; Reconcile, reconcile.com)</td>
<td>0.5–1.5 mg/kg/day PO</td>
<td>• Effective for marking cats&lt;br&gt;• Side effects include inappetence &amp; sedation</td>
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<tr>
<td>Paroxetine (Paxil, gsk.com)</td>
<td>0.5–1.5 mg/kg q24–48h PO</td>
<td>• Effective for marking cats&lt;br&gt;• Side effects include inappetence &amp; sedation</td>
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<tr>
<td><strong>Tricyclic antidepressants</strong></td>
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<tr>
<td>Amitriptyline (Elavil, astrazeneca.com)</td>
<td>5–10 mg/cat/day PO or 0.5–2.0 mg/kg q12–24h PO</td>
<td>• Side effects include sedation &amp; other anticholinergic effects</td>
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<tr>
<td>Clomipramine (Clomicalm, ah.novartis.com; Anafranil, covidien.com)</td>
<td>0.25–1.3 mg/kg/day PO</td>
<td>• Side effects include sedation &amp; other anticholinergic effects</td>
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<tr>
<td><strong>Benzodiazepines</strong></td>
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<tr>
<td>Alprazolam (Xanax)</td>
<td>0.125–0.25 mg/cat q12–24h PO as needed</td>
<td>• Results in sedation&lt;br&gt;• May cause liver failure*</td>
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<tr>
<td>Diazepam (Valium)</td>
<td>0.1–1.0 mg/kg q12–24h PO as needed</td>
<td>• May cause hepatotoxicity</td>
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<tr>
<td><strong>Partial serotonin agonist</strong></td>
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<tr>
<td>Buspirone (Buspar,** bms.com)</td>
<td>2.5–7.5 mg/cat q12–24h PO</td>
<td>• Avoid use with aggressive cats, as it can make them more assertive</td>
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<tr>
<td><strong>Synthetic progestins</strong></td>
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<tr>
<td>Medroxyprogesterone acetate (Depo-Provera, pfizer.com)</td>
<td>Usually injected in low dose (2 mg/kg q3mo or 3 mg/kg q4mo) or high dose (10–20 mg/kg at no less than 1-mo intervals)</td>
<td>• May cause mammary neoplasia &amp; bone marrow suppression&lt;br&gt;• Consider only as last resort or in refractory cases</td>
</tr>
<tr>
<td>Megestrol acetate (Ovaban, merck-animal-health-usa.com)</td>
<td>2.5–5 mg/cat q24h PO</td>
<td>• May cause mammary neoplasia &amp; bone marrow suppression&lt;br&gt;• Consider only as last resort or in refractory cases</td>
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* Liver failure has not been reported in cats receiving alprazolam for behavior problems but is a rare event in humans and should therefore be considered before it is administered to cats.
** Buspar is off-patent.