

ELIMINATING INAPPROPRIATE FELINE ELIMINATION

Margie Scherk DVM, DABVP (feline)
Vancouver, BC, Canada

Tragically, in North America, tens of thousands of cats are euthanized or surrendered to shelters each year for behaviour problems. Of these cats, between 40% and 75% of all cats presented for behaviour problems have an elimination disorder involving urination or defecation. In addition, many cats are presented with the clinical signs of lower urinary tract disease (LUTD) (pollakiuria, stranguria, and hematuria). Thus, there are three populations of cats who may urinate/defecate inappropriately: those with behaviour-based problems, those with medical problems and a small group of cats experiencing both problems, concurrently.

Because cats may urinate in unacceptable locations out of discomfort or to “announce” LUTD, it is critically important to rule out a physical component of this unwelcome behaviour by performing a full, thorough physical examination as well as a complete urinalysis, before going to the in-depth behaviour consultation. If the cat is defecating inappropriately and the problem is determined to be a medical one, then appropriate steps need to be taken. Further tests may be indicated according to whether the problem is large bowel or small bowel in nature. This may include running a fecal examination as well as rectal cytology (if large bowel origin) or endoscopy if small bowel in origin. A complete blood count, serum biochemistries, rectal examination, anal sac assessment, vaginal examination, fecal ova and parasite may be advisable for evaluation of inappropriate defecation that is believed to be behavioural in origin.

Several “oddities” should be recognized.

- 1) Some cats with hyperthyroidism, defecate outside of their litterbox, without showing any other, more classic signs of this disorder.
- 2) Abdominal alopecia caused by licking, may be due to the pain of cystitis, thus it may be wise to perform a urinalysis on cats presented for this problem.
- 3) Idiopathic cystitis (interstitial cystitis, neurogenic cystitis, sterile cystitis) may cause LUTD with hematuria as the only abnormality on urinalysis. If abdominal ultrasound or plain and contrast radiography are unremarkable, then medication that alleviates pain/blocks release of the chemical mediators causing the pain, such as amitriptylline, are indicated. Whether the inappropriate urination is due to the pain or due to the anxiety caused by the pain becomes a moot point, as far as the patient is concerned.

Determining who the culprit is can be confusing in a multicat household. For urination related problems, this can be elucidated by administering fluorescein (0.3 ml at 100 mg fluorescein/ml = 10%) subcutaneously or place six large (9 mg fluorescein / strip) fluorescein dye strips in a gelatin capsule and give orally to cat. The cat will eliminate bright yellow-green fluorescent urine for 24 hours after administration when viewed with a fluorescent black light. Untreated urine will also fluoresce, so clients must become familiar with normal fluorescence so they can appreciate the enhanced fluorescence. Be aware that the fluorescein treated urine may be visible to the naked eye on certain fabrics. Clients should be cautioned that fluorescein stains some fabrics.

Having baseline blood work is advisable in any patient with a behaviour problem whose therapeutic plan may include the use of pharmacological agents. For any medication that is going to be used for a prolonged period of time, there is always the concern of hepatotoxicity, which might be prevented by screening for pre-existing disease. As with the diazepam adverse reactions (i.e. acute hepatotoxicity resulting in death), there is always the possibility of idiosyncratic drug reaction with **any** drug in **any** patient. For this reason, it is most pertinent to

disclose this risk to clients while discussing options, as well as considering using an informed consent form.

An extremely valuable resource for the practitioner is Dr. Karen Overall's book, entitled **Clinical Behavioral Medicine for Small Animals**, Mosby, 1997. This text has important chapters covering behaviour problems in depth, as well as extremely important basic chapters: Taking the Behavioral History and Behavioral Pharmacology. In addition, there are appendices, which include easy to follow protocols for each category of behaviour disorder. These make (and are designed as) wonderful client handouts. This book is the main reference for these notes.

Once the clinician has ascertained that it is, indeed, a behaviour based problem, a thorough, detailed behaviour history should be taken. As success in dealing with behavioural disorders often requires recognition of subtle changes from what is normal for that individual, it is imperative to explore and learn what the norm consisted of. Using a standardized approach prevents overlooking important pieces of information. There are many sources of detailed history questionnaires.

The history should include all relevant information regarding the source and age of the cat at adoption, age at surgical altering, prior behavioural problems, daily routine, indoor/outdoor status, feeding patterns, other family pet illnesses, family and household structure, and then progress to eliciting information about the problem behaviour itself, including the **most recent** incident, the **second** most recent incident and the **third** most recent incident. For elimination histories, the number, location, sizes, depths and types of litter boxes, litter, history of use of litter types, frequency of changing litter as well as scooping the litter and number of cats sharing the boxes is critical. Find out as much as you can about how the cat uses the box. What has the client observe? Knowing whether the culprit gets fully inside the box or not when using it, where the accidents are occurring is helpful in getting a picture of what is going on. Much of this can be done having the client fill in/check off history forms. Ask the client to draw a floor plan sketch of the home and have the client mark the location of the litter boxes, the doors and windows and where the cat is eliminating. A good time to have the client do this is while you are observing the cat interact with his/her environment and while you are reviewing the history questionnaire. Remember to observe how the cat and client interact. The history will take about 20-30 minutes to take, so hour or longer consultations are advisable. Be sure to charge accordingly.

Once the history has been taken, be sure to ask the client if there is anything else that they can think of that hasn't been covered by the questions. Throughout the questioning, give the client as much time to answer as possible. By this time, you should be noting some correlations between the cat's behaviours and the home environment (social, physical). These correlations will allow you and the client to test some theories in order to determine causality. Dr. Overall's text also includes algorithmic flow charts that are very useful once history has been obtained.

Elimination disorders can be categorized as being

- a) Substrate aversion (urine or feces)
- b) Location aversion (urine or feces)
- c) Substrate preference (urine or feces)
- d) Location preference (urine or feces)
- e) Nonspraying marking (urine or feces)
- f) Spraying marking (urine)

AVERSIONS

Substrate aversions Cats may come to associate their litter with pain or fear. This may occur when they experience cystitis, colitis, or post declawing. They may dislike the smell of the litter or the state of the box, clean or soiled. Deodorized litters are repugnant to many cats, as are strong smells of used litter, cedar wood chips, or the smells of an ill cat sharing the box. Noises and sensations of fizzing baking soda, sticky litter, litter box liners, hard gravel, and extraneous noises and smells act as deterrents for some cats. Classically, a cat who dislikes the litter but has not yet developed a new preference will balance on the rim of the box and scratch outside of the box, rather than touch the litter. His aim may allow the urine and feces to end up in the box or beside it. The cat may try to maintain appropriate use of the box location, yet avoid the box itself...this would be a classic and very manageable presentation of a substrate aversion.

Location aversions are associated with the presence of any undesirable individual and may be precipitated by the scent of other cats, physical exclusion or victimization by other cats, people, other animals or objects. This may lead to a secondary location preference away from other cats, noise, activity such that would correlate with an anxious, avoidant cat. This type of aversion is uncommon. If the cat's aversion is purely to the location and not to the substrate, then moving the box to an area lacking those factors implicated in the aversion will be diagnostic.

PREFERENCES

Substrate preferences: Substrate preferences are very common. Generally the kitty will have a clear preference for an alternative substance for elimination behaviours such as: fabrics, bedding, towels, bath mats, plastic bags, bathtubs, wood floors, linoleum, etc. Cats preferring smooth open surfaces, such as bathtubs and uncarpeted floors may be responding to an ancestral need to mark territory or to reduce parasite burden.

Just because a cat may dislike a substrate, doesn't mean that they never use the box. Yet, while substrate preferences may be spontaneous, it may also occur in conjunction with a substrate or location aversion. An example of this is when clients are on vacation and the litterbox becomes repugnant to the cat in its filth, an alternative substrate may be selected. Illness may also be implicated in preference development. Urge incontinence of colitis or cystitis may force the cat to choose a closer, more available substrate if the box is too far away. Arthritis may make it difficult for a cat to get to or get into a box.

Clients should be counselled to watch their cat, before litterbox problems develop, so that they know what constitutes normal behaviour for that individual. If a problem arises, they can then observe the use of the inappropriate substrate to see if the substrate is the problem. An example of this follows: a cat stands on the edge of his/her box, avoiding contact of his/her feet with the litter, scratches at the ground/wall beside the box, but is observed to circle, dig and cover the urine or feces when using the bedding or a plastic bag. This would imply a dislike of the litterbox substrate.

In general, the finely grained, silica, disposable, clumpable cat litters are preferred by most cats. The easiest way to determine the preferred litter type, once a substrate preference has been identified, is to offer a cafeteria buffet of litter boxes with several types of litter. If a cat prefers one type to defecate in and another to urinate in, then so be it. A variety of types of litter boxes may also be offered, esp. for those individuals who like to spray or urinate without squatting completely. Leaning one box against a wall on its end and placing the second box inside of it on the floor may help in this situation if the cat dislikes a hooded box. Aversion to a hooded box is especially likely when the cat is being or feeling terrorized by another individual (human or

animal) or if the smell becomes unpleasant. If a client complains of the clumping sand being tracked around the house, then either a sisal mat or a towel can be placed adjacent to the box. However, if a cat has a preference for towels or other soft substrates, then a towel would not be appropriate.

Location preferences As the description implies, cats may develop a preference for an alternative location over that of the litterbox; this occurs most often if social conflict exists and/or if the perpetrator has a shy, anxious personality. A cat may prefer a covered box or a box in a less busy area. By placing an additional box in the preferred location one soon sees if the problem is solely one of location preference, in that, by doing this, the problem should resolve. In situations where the cat uses several spots to eliminate in, rather than one, it is helpful to counter condition the cat by placing food bowls over spot after thorough use of an odour eliminator. If this exercise isn't successful, then placing a plant or solid piece of furniture over that location may be required. It is imperative for this to be successful to leave the new box in its new location for 2 weeks of no failures in elimination location before starting to relocate the box. The successfully used box should be moved *no more than* 1-2 inches (2.5-5 cm) per day in the direction of a more convenient/appropriate location.

MARKING

Nonspraying Marking: This form of marking may be with urine or feces and does not include spraying. The purpose of this behaviour appears to be territorial marking in one or more locations. A pool of urine or feces is found. This may be difficult to differentiate from substrate or location preference. Rather than being a behaviour one sees in only dominant cats, this may be a form of expression by anxious underlings wanting to claim territory without fighting for it.

Spraying Marking: The more commonly recognized form of urine marking, this is a very normal behaviour in cats. Finding spraying in a household situation is evidence of territorial marking, by either bold cats announcing their presence and right to domain) or by timid cats trying to claim a niche (they may spray, squat or deposit feces). In a situation where overt aggression occurs, less confident cats may spray rather than fight. Commonly cats spray near windows and doors to the outside if the perceived threat is outside (another cat). Social relationships between cats within the household must be carefully observed and addressed to determine where the stress is occurring. Females, as well as males may spray. Typically, spraying is on vertical surfaces (walls, furniture) and the urine drips down; urine in the middle of a room may, however, be sprayed. In this case, rather than finding a puddle, a long thin soiled area is found.

Aggression and Elimination Disorders

Because cats have a superb sense of smell and because it is a normal behaviour for a cat to mark territory, urine or feces are the perfect calling cards. Consider that in a cat's brain, the olfactory epithelium is up to 20 cm, while in humans, the area allocated to smell is a mere 2-4 cm. Thus, smell and odour marking play a great role in the development and maintenance of social systems for cats. Cats may be displaying active aggression (confident cat), passive aggression (anxious or fearful cat avoiding overt aggression), or status related spraying (stereotypic posturing for the benefit of a real or imaginary cat as it serves to assert social status). Contests for position and status occur without sexual overtones, as a residual behaviour from sexual situations in which being the dominant male was essential to have breeding rights. Most clients are able to describe the hierarchy and their reasons for drawing these conclusions. Hierarchy and deference as well as adequate space are methods for avoiding conflict and maintaining stability within households. It is essential to get an understanding of the complex social interactions between cats in a multicat household in order to untangle elimination disorders in multicat homes.

Needless to say, as with any behaviour disorder, the earlier the problem is presented the greater the likelihood that the problem will be easily treatable.

TREATMENT of Elimination Disorders

In order to be optimally successful in treating feline elimination disorders a combination of environmental and behavioural modifications and pharmacological intervention must be introduced. It is, as stated earlier, imperative to rule out any underlying or concurrent medical conditions that may be implicated, even if the problem isn't one of the urinary or gastrointestinal tracts.

The **olfactory component** must be dealt with aggressively. This means that ALL layers of the affected area need to be cleaned or replaced; if the area is concrete, then sealer should be painted over it; tiles and floorboard need to be replaced. Cleaning requires a good enzymatic product. The longer the duration of the problem, the less the odour eliminator can be expected to do. After removing materials, cleaning and using odour eliminator, heavy gauge insulating plastic should be taped down securely to avoid further penetration of urine/feces, as well as to change the tactile sensation and make it unpleasant for the cat. Ideally, isolate the cat to a different area with a selection of a number of litter boxes with different substrates. It is critical that clients do *not* use vinegar or ammonia for cleaning up the soiled locations. Also, some odour eliminators become ineffective at degrading the urine when cats are on certain antibiotics. It is essential to break the olfactory cycle! Urine-Off (www.urine-off.com) seems to be the most effective and comes with a black light to identify all of the locations.

Next, provide the cat with a variety of **substrates**. Provide multiple litter boxes; the general rule of thumb is one more than the number of cats. Litter boxes should be placed in a number of locations, at least one on each floor in a multi-level home. It is also advisable to offer a variety of box styles (open, covered, shallow, deep, big, small).

Litter box cleanliness is crucial to successful treatment. Boxes should be scooped at least once a day (I remind clients that a dirty box is like using an unflushed toilet) and emptied and washed out every other day if the litter is not the clumpable, scoopable kind. However, even using this type of litter, the entire contents needs to be discarded every week allowing the box to be washed out thoroughly. Do not leave any residues of disinfectants or deodorizers. Old boxes should be discarded as they are permeated with smell. Size is important. Boxes need to be large enough, in other words at least twice the length of the cat!

If the cat has shown a clear preference for a new **location**, then the box filled with a preferred litter-type, can be placed in that spot. Counter-conditioning, as mentioned above, can be done by covering the soiled (now clean) spot with food bowls or a large plant. A cat should not be terrorized or startled while using the box. The safety of the new location (or existing one) needs to be protected. If a cat squats just outside of the box, then it may be appropriate to startle him/her within the first few seconds of the behaviour to help link the behaviour with the startle. It must not be so severe to make the cat fearful. It may be helpful to bell the cat so that the client knows when the cat is near the litter box. Clients need to be reminded that physical punishment and rubbing the cat's nose in the urine or feces will not work and should not be done.

Pheromone use

Feliway™ is a synthetic analog of a feline facial pheromone. It is thought to increase emotional stability. Its use in the reduction of inappropriate urination needs to be studied further. Studies done to date have shown a reduction in urine marking of less than 3 months duration of over

96%. In cats who had been marking for 4 months or longer, there was a reduction of marking in 91% of cats after 35 days of environmental treatment. A third study showed that while there was a significant reduction in all households in which Feliway™ was applied, 2/3 of the households still experienced some marking.

The product is sprayed directly on places soiled by the cat and also any prominent vertical locations in the environment. A daily application is necessary until the cat is noted to exhibit facial rubbing on the site. If the cat does not exhibit facial rubbing, then daily application to the environment should be continued for one month. Recently a plug in diffuser has become available which provides a constant slow release of pheromone in the environment.

Pharmacological intervention must be viewed as adjunctive therapy. Used alone, without behavioural and environmental modification, it is bound to fail. Drugs that are appropriate for certain situations and personality types (social structure) are the benzodiazepines (diazepam, clorazepate), tricyclic antidepressants (TCAs, such as amitriptyline, nortriptyline, clomipramine), non-specific anxiolytics (buspirone HCl and selective serotonin re-uptake inhibitors (SSRIs)) and progestins (as a last resort). It is prudent to spend some time reading about the mechanisms of action of all behaviour pharmacological agents. This topic is beyond the scope of these notes.

Because cats are deficient in glucuronyl transferase, they are less effective than other species in metabolizing drugs of many kinds. The report of acute hepatotoxicity associated with diazepam/Valium™ use has underscored the importance of pre medication blood screening (CBC, differential, serum chemistries) and urinalysis. Risks should be discussed with clients, so that they are both informed, as well as observant and are able to respond rapidly should side effects be noted. This drug metabolic bottleneck in cats, also explains why they are more prone to side effects (e.g. drowsiness with TCAs) than some other species. It may take nothing more than decreasing the frequency of the drug or changing to a different form of it (e.g. nortriptyline rather than amitriptyline) to alleviate the side effects, whilst maintaining the benefits.

In elimination problems involving a substrate or location preference or aversion, either a TCA or a non-specific anti-anxiety drug will be most effective. Diazepam may make the behaviour worsen, because any learned inhibition (such as still using the box but not standing in the disliked litter) will be removed. This could result in the cat no longer attempting to maintain appropriate behaviour (near the box) and starting to eliminate elsewhere as well. Similarly, an unwelcome side effect of buspirone may be an increase in inter-cat aggression as learned inhibition may be reduced. Clomipramine and fluoxetine are equally effective in the short term (8 weeks) but over a 16 week period, fluoxetine was significantly more effective. Table 1 shows medications, which may be considered as part of a treatment plan for inappropriate elimination. Without concurrent attention to making the toilet a pleasant place and without addressing social issues within the home, treatment will be minimally successful.

For most cats, drugs will be needed lifelong, however, after a minimum of 2-4 months have passed without incident, gradual weaning to the lowest effective controlling dose is advisable. Decrease the drug dosing frequency by half for one week, then again by half for another week, etc., until the dose is found that the cat needs to be maintained on. Some cats do not relapse.

Therapy for spraying necessitates analysis of the social demographics in the home. Occasionally, only physical and behavioural modifications need be made if the problem is of recent onset. However, if the problem has been occurring for more than a week, more work will be required because the olfactory input is being reinforced providing an opportunity for the cat to

learn a new range of behaviour. Because this could make the problem irreversible or extremely difficult to treat, it is advisable to utilize pharmacological aids promptly. TCAs, SSRIs, diazepam and buspirone are all used in the treatment of inappropriate elimination. Recently, a milk origin peptide, tryptic bovine s1-casein hydrolysate (Zylkene) has been evaluated for the treatment of anxiety in cats. When hydrolyzed, this molecule has been shown to fit into a segment of the GABA-B receptor thought to be responsible for anxiolytic activity. It may be considered for urine spraying, compulsive licking, and fear-related aggressive behaviors when these are believed to be associated with stress or anxiety. It is lactose free. A new diet (Royal Canin/Medi-Cal Calm) contains alpha-casozepine, tryptophan and nicotinamide. Up to the time of writing, the author has not seen any research (independent, peer-reviewed or otherwise) evaluating this product.

The recommended route of administration for the medications discussed above is oral. Although transdermal gels are gaining popularity for ease of administration, studies have shown that the systemic absorption of amitriptyline, buspirone and fluoxetine administered transdermally is poor (~ 10%) compared with the oral route of administration. Until supporting pharmacokinetic data are available, veterinarians and cat clients should not rely on the transdermal route of administration for treating cats with these drugs.

Table 1.

DRUG	DRUG CLASS	FELINE DOSE	SIDE EFFECTS (partial list)
buspirone Buspar	Azapirone	0.5-1.0 mg / kg po q12-24 h	increased intercat interactions with some propensity for agonistic outcomes (10%)
amitriptyline Elavil	Tricyclic antidepressant	0.5-1.0 mg / kg po q12-24 h	sedation, anticholinergic effects
clomipramine Anafranil	Tricyclic antidepressant	0.5 mg/kg po q24 h x 8 weeks	sedation, anticholinergic effects
fluoxetine Prozac	SSRI	0.5-1 mg/kg po q24 h x 8 weeks	Inappetence, mild lethargy
paroxetine Paxil	SSRI	0.5-10.0 mg / kg po q24-48 h	urinary and fecal retention, mild lethargy
cyproheptadine Periactin	antihistamine	0.25-5 mg/ kg po q12 h	sedation, increase in appetite, dry mouth
diazepam Valium	benzodiazepine	0.2-0.4 mg/kg po q12-24 h	acute hepatic failure (extremely rare, and possibly 2° to another pathology); sedation
alpha-casozepine Zylkene	benzodiazepine-like	15 mg/kg po q24h	none reported to date

The client should be made aware of possible adverse effects of any medication used for behaviour modification. Dr. Overall's book included Informed Consents for each medication.

Note: If environmental, behavioural and pharmacological therapies have been instituted, yet the problem persists, it may require repetition of medical evaluation and tests. Bacterial urinary tract infections may be undetected until numerous urinalyses and cultures have been run. Clients should also be made aware of the fact that elimination problems are more challenging and have a lower success rate in multi-cat households.

BEHAVIOUR PROBLEMS KILL MORE CATS ANNUALLY THAN VIRAL DISEASE.

Accordingly, clients should be told of the importance of early treatment as well as being counselled about preventing behaviour problems when they first acquire their cat or kitten.
(Karen Overall)

The American Association of Feline Practitioners has created many sets of Guidelines. These include the recent development of the Behaviour Guidelines and can be downloaded and printed from the website:

http://catvets.com/uploads/PDF/Feline_Behavior_Guidelines.pdf

B-15 PROTOCOL FOR CATS WITH ELIMINATION DISORDERS

The steps below are designed to help resolve substrate and location preferences and substrate and location aversions that are commonly experienced by cats. These steps are intended to help reinforce a cat's appropriate litter box use. Remember that the feline social system may also affect the behavior of a cat that is not using the litter box. Note any interactions that might be compounding the problem.

1. All affected areas must be cleaned with an odor eliminator.
2. After cleaning, cover affected areas with heavy-gauge plastic both to change the tactile sensation for the cat and to prevent further penetration in the event of elimination.
3. Encourage the client to use multiple litter boxes, generally one more than there are cats, unless there are more than five cats; large numbers of cats may render the stimulus too strong. These litter boxes should be placed in a variety of locations and be of a variety of styles (open, covered, deep, shallow, big, small).
4. Litter should be scooped daily, and most litters should be dumped totally every other day. The exceptions to this are the newer, clumpable litters; these do not have to be discarded as frequently but do need to be "topped up." Many cats differ in their preference for litter depth. Boxes should be washed weekly. Some old boxes may be so permeated with scent that they should be discarded.
5. A variety of litters should be offered to the cat in a variety of boxes. If the cat is using soft substances, consider softer litters: No. 3 blasting sand, playground sand, shredded newspaper or toweling, sawdust, or wood chips (not cedar). Many clients at the Behavior Clinic at the Veterinary Hospital of the University of Pennsylvania (VHUP) are now using recyclable, clumping litters with almost universally excellent results. Be creative and persistent. Consider trying one of the new trays where urine passes through rocks onto a pad below. Watch the cat and find out what works. Use this information to plot your strategy. Some cats prefer very little or no litter.
6. Cats are not trained to litter boxes; this is a behavior that develops in the absence of human intervention as kittens. Accordingly, a cat with an elimination problem cannot be trained to use a litter box; however, it can be encouraged to use a specific substrate by taking the cat to the litter box frequently, waiting with it, and praising it whenever it uses the box.
7. If the cat is observed squatting outside the box, punishment works if the cat is startled within the first 30 to 60 seconds of the onset of the behavior (that includes circling, facial expressions, and digging) and the startle is sufficient to make the cat abort the behavior and leave. Foghorns, water pistols, whistles, and tins of pennies all work with some cats. Foghorns are usually inappropriate in apartments, although clients derive much satisfaction from their use. Regardless, physical punishment, including rubbing the cat's nose in the soiled area, is useless after the fact and is potentially dangerous to the client and injurious to the cat during the act.
8. Some cats may need to be confined to a restricted area at first. If you do this, make sure that the cat has the same

choice of litters and boxes mentioned previously and that you give much attention to the cat during its confinement. If the cat was very social beforehand, confinement must be arranged to meet the cat's social needs. If the behavior of the other cats in the household changes when one is isolated, this hints at a social problem that may need to be addressed as part of the treatment for the elimination disorder. Access to the rest of the house can be expanded once the cats are using litter appropriately in the confined area. It is important that the expanded access be closely supervised both because of the potential relapses and because of potential social problems that may not have been previously recognized. A bell sewn to the cat's collar can act as a reminder that supervision is necessary. Access should be gradually expanded—do not give the cat free access to the entire house all at once after 6 weeks of confinement. If the cat has truly learned and demonstrated a preference for a litter or box style, this will be generalized to the rest of the house if the reintroductions are gradual. Remember that the number of boxes still must be maintained at the increased number and all cleanliness rules still apply.

Antianxiety medications may help some cats that otherwise are unable to succeed in this program. Remember, if it is decided that medication could benefit your cat, you need to use it *in addition* to the behavior modification, not instead of it.

Checklist

1. General

- Scoop litter boxes daily
- Dump litter at least every other day
- Wash the litter box in hot, soapy water once a week; use no ammonia products, and make sure that the box is well rinsed and dried
- Clean soiled areas with an odor eliminator; repeat and cover with plastic to prevent resoiling
- Take the cat to the box often and praise for scratching and/or use of substrate (if this scares the cat, do not do it.)
- Provide one more box than the number of cats
- Change litter types, depths, and box styles

2. Location

- Follow general instructions
- Place a scent deterrent in the area (mint or deodorant-scented soap or something you know the cat dislikes)
- Place food and/or water dishes on the spot(s)
- Place a litter box on the spot

3. Substrate

- Follow general instructions
- Try different litters

Types tried:

- | | |
|----------|----------|
| 1. _____ | 3. _____ |
| 2. _____ | 4. _____ |

- Try with and without litter box liners
- Try covered versus open boxes
- Try different depths of litter, including no litter

PROTOCOL FOR CATS WITH ELIMINATION DISORDERS from Overall, KL.: Clinical Behavioral Medicine for Small Animals, Mosby, St. Louis, Missouri, 1997. (Appendix B, B-15, page 453.)