PRACTICING CAT FRIENDLY
The articles presented by the American Association of Feline Practitioners (AAFP) focus on feline-specific information on cats’ unique behaviors; diagnosis and evaluation of disease and conditions; better approaches and techniques for cats; and strategies to decrease stress associated with the veterinary visit for cats, caregivers, and your team.

LITTERBOX AVOIDANCE
Consider Pandora syndrome as the diagnosis rather than feline idiopathic cystitis.
The discovery that the family cat is not using its litterbox can lead to distress in the entire household. While trying to determine the cause of their cat’s problem, people notice other behaviors, such as frequent trips to the litterbox, straining (that may produce bloody urine or nothing at all), or unusual vocalizations. At first glance, litterbox avoidance may be confused with marking, when in fact the cat is attempting to empty its bladder, but these 2 behaviors differ.

Marking often occurs in socially significant areas as a signal to other cats (typically related to territorial behavior, anxiety, or signaling for a mate) and is more common in multicat households. Cats mark by depositing small amounts of urine on vertical surfaces such as doors, windows, or frequently used furniture.

Litterbox avoidance, in contrast, is evidenced by the cat leaving a large volume of urine on horizontal surfaces (or small amounts if there is discomfort caused by bladder inflammation or spasm); this behavior is not related to intercat communication. Areas of urination may be found on soft surfaces, such as bathroom or laundry mats, or hard surfaces such as bathtubs or sinks. Litterbox avoidance can occur for a multitude of reasons, including an unclean litterbox, poor litterbox location, inaccessible litterbox because of bullying by another cat or dog, or an association of painful urination with the litterbox itself. To remedy this situation, the cat seeks out a new, comfortable, quiet, acceptable elimination area. Defecation, which is normally done separately from urination, may still
occur in the litterbox, depending on the situation. As the client notes these signs, an appointment with the veterinarian will often be booked as a “possible bladder infection.” Although the bladder is clearly affected, often infection is not the prevailing culprit.

**Takeaway Points**
- Marking is often displayed by depositing small amounts of urine on vertical surfaces in socially significant areas. These deposits are signals to other cats.
- Litterbox avoidance is often characterized by urination on horizontal surfaces; the quantity of urine may be large or small. Cats may avoid the litterbox for many reasons.

**LOWER URINARY TRACT SYMPTOMS AND FELINE IDIOPATHIC CYSTITIS**

At the veterinary hospital, the physical examination findings may prove unremarkable, other than perhaps finding that the abdomen is tender to palpation; thus, additional diagnostics are warranted. Further inconclusive results for laboratory testing, urinalysis, and imaging are understandably unsatisfying to both the client and the veterinary healthcare team. Based on a combination of the medical history, environmental risk factors, personality of the cat, and lack of diagnostic abnormalities, the diagnosis of feline idiopathic cystitis (FIC) may be assigned.

Lower urinary tract (LUT) signs are common in cats. In 2016, the second most common cat-related medical claim reported by Nationwide Pet Insurance policy holders was cystitis or urinary tract disease (most of which was idiopathic in origin). LUT signs can be acute or chronic and can result from FIC, urolithiasis, urethral obstruction, crystalluria, or many other causes. Whereas most of these causes are disorders of the urinary tract, FIC (the most common cause of LUT signs) seems to be a problem that affects the bladder rather than a primary bladder problem.4

There is no concise diagnostic test for confirmation of FIC. However, cats with FIC, specifically with regard to their health status and environment, are often:

1. Exclusively or almost exclusively kept indoors
2. Younger than 10 years
3. Obese
4. Living in a multicat household
5. Known to have had previous bladder issues
6. Generally described as being “nervous”

Stress has a broad effect on the overall well-being of humans and animals. Cats, being both predators and prey, have a tendency for flight, which is essential for survival when living outdoors but less necessary when indoors. For cats not affected by Pandora syndrome, stress may cause them to feel uncomfortable, but over time they become desensitized and adjust. However, for others, a maladaptive response to stress becomes fuel for the creation of FIC. It is their inability to adapt to their environment that creates sensitization and chronic high stress.4

This inability to manage stress affects the bladder and other body systems (e.g., the immune, gastrointestinal, cardiovascular, endocrine, integument, and respiratory systems). Not unusual for cats with FIC is a history of sickness behavior, bouts of vomiting, diarrhea, lethargy, decreased appetite, and so on. These new correlations raise the question: is FIC a condition of the bladder, or is it just a side effect of a broader condition?

**Takeaway Points**
- Most LUT signs are of unknown origin.
- FIC is the most common manifestation of LUT signs.

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**BOX 1**

**Diagnosing Pandora Syndrome**

**Exclusion Criteria**
- Other causes of signs
- Incompatible history, physical examination, laboratory results, imaging findings, etc.
- Peripheral pathology

**Inclusion Criteria**
- (Early) adverse experience
- Comorbidity, sickness behaviors
- Waxing and waning signs
- Limited peripheral pathology
- Global (total) response to multimodal environmental modification
A maladaptive ability to handle stress is an influential factor in FIC patients.

**WHAT INSTIGATES PANDORA SYNDROME?**

While researching patients suffering from FIC, Dr. Tony Buffington discovered that FIC may very well be a symptom of a much larger problem. In response to this finding, the new term “Pandora syndrome” was born. Dr. Buffington describes Pandora syndrome as an “anxiopathy,” a disorder resulting from chronic anxiety (stressors that the cat finds threatening), which can be manifested in any combination of organs (TABLE 1). This term is a fitting replacement for FIC because, according to Dr. Buffington, “First, it does not identify any specific cause or organ, and second, it seems to capture the dismay and dispute associated with the identification of so many problems (evils) outside the organ of interest of any particular subspecialty.”

Pandora syndrome is a diagnosis of both exclusion and inclusion (BOX 1).

Cats with Pandora syndrome are typically anxious cats whose anxiety is easily triggered and that take longer to recover from stressful events. They have a history of chronic concurrent (possibly transient) illnesses in various body systems and unremarkable test results. These illnesses may correlate with stressful situations such as a recent move, visitors, or a sudden change in the family schedule. The diagnosis of Pandora syndrome is often confirmed by decreased frequency, severity, and duration of symptomatic flare-ups in response to implementation of Multimodal Environmental MOdification (MEMO). MEMO involves treatment via enhancement of the cat’s environment to create a stable, predictable home life.

**Takeaway Points**

- FIC is one example of many conditions exhibited by cats with Pandora syndrome.
- Pandora syndrome is a maladaptive response to stress, which creates illness in many body systems.
- Pandora syndrome cannot yet be “cured” but can be managed. Environmental modification must be implemented to decrease recurrence frequency, severity, and duration of clinical signs.

**TREATMENT: A MULTIFOI LD PATH**

Before long-term management is addressed, the initial bladder pain and discomfor t must be addressed. This treatment may include pain management at home or more intensive therapy in the hospital.

For more long-term management, the client must create a sense of stability and predictability for the cat, which requires making changes to the cat’s environment. The goal of MEMO is creating these environmental changes by decreasing the likelihood of activation of the stress response system. Educate the client on making variable combinations of changes in the cat’s inanimate physical environment; diet; and interactions with other cats, other animals, and humans. The following 10 areas of treatment, which typically focus on each cat’s environmental needs (catvets.com), can be recommended to clients.

1. **Safety**: Provide safe places for the cat to watch over activity or hide. Most will lean toward being either

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**TABLE 1 Disorders That May Be Manifestations of Pandora Syndrome**

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>MANIFESTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior</td>
<td>Excessive hiding, pica, aggression, periuria, perichezia</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>Hypertrophic cardiomyopathy, saddle thrombi</td>
</tr>
<tr>
<td>Endocrine</td>
<td>Obesity, type 2 diabetes mellitus, possibly others</td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td>Odontoclastic resorptive lesions, regurgitation, vomiting, hairball expulsion, lower bowel diarrhea, perichezia</td>
</tr>
<tr>
<td>Immune</td>
<td>Upper respiratory infections</td>
</tr>
<tr>
<td>Nutritional</td>
<td>Obesity, finicky eating</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Asthma</td>
</tr>
<tr>
<td>Skin</td>
<td>Overgrooming, chin acne, atopy</td>
</tr>
<tr>
<td>Urinary</td>
<td>Stones, FIC, periuria, spraying, chronic kidney disease</td>
</tr>
</tbody>
</table>
a “bush dweller” (likes low places) or “tree dweller” (prefers high vantage points). Provide multiple safe resting places according to the cat’s preference. Ideal places include window seats, cat trees, hiding spaces in covered cat beds, or an accessible cubby on the bottom of a bookshelf.

2. Pheromones: Animals secrete these chemicals to transmit specific information among members of the same species. There are synthetic versions available in the market.
   A. One synthetic feline pheromone diffuser mimics the calming pheromones emitted by female cats while nursing their kittens. It is best used to decrease social tension in multicat households, thereby decreasing fighting, chasing, blocking, and staring.
   B. Another synthetic pheromone mimics the pheromones transmitted through cats’ facial glands to create a feeling of calm. It can be sprayed on blankets in a carrier for traveling, especially before a stressful trip to the veterinary hospital or a boarding facility. It can also be used as a diffuser at home to help reduce tension and consequent urine spraying, scratching, or hiding.

3. Multicat Household: Limited resources—whether food or territory—may lead to increased conflict between cats. It is essential that each cat have its own set of resources (e.g., food, water, resting spots) to prevent bullying by other cats and to provide a feeling of safety.

4. Scratching Areas: Scratching is a natural behavior for cats to communicate visually and olfactorily. To curb scratching of items precious to the client, cat scratchers should be supplied based on the cat’s preferences in terms of vertical or horizontal surfaces, texture, and placement.
   A. Up or down? Some cats like to stretch upward and scratch couches or chair legs; others might prefer digging into carpet. Be proactive in providing a choice of surfaces and make note of which the cat uses (some might like both, such as a wedge-shaped scratcher).
   B. Texture: Cat scratchers can be made of a number of textures, such as carpet, sisal, wood, or cardboard. If the cat is not using the current post, try a different material (or one that is similar to the item the cat is shredding).
   C. Location: Place scratching posts in prominent socially significant areas. If the cat has already started scratching furniture or other items, place the tree or post as close to these areas as possible. If the cat has not yet formed this bad habit, place the tree or post where the cat spends the most time (e.g., where the cat watches birds, plays, or sleeps).
   D. Pheromones: To improve chances of success, use catnip spray (or a synthetic product that mimics pheromones from the cat’s paws) to encourage interest in a scratcher. If scratching activity is observed, offer the cat praise, petting, and treats; positive reinforcement encourages the cat to increase this behavior in the future.
   E. Management: If the cat is already scratching furniture or other items, place a scratching post next to those items and protect them with reversible tape (e.g., Sticky Paws) or Cat Scratch Guards (a tough plastic material that prevents scratch damage).
   F. Claw management: Trim the cat’s claws regularly to decrease damage to household items. Soft plastic caps, such as Soft Paws, can be placed on the cat’s claws to protect precious items from being shredded.
5. Litterboxes
   A. **Number:** Litterboxes should be offered with the “1 litterbox per cat + 1” formula.
   B. **Size:** A litterbox should be 1.5 times the length of the cat’s body. In the cat’s world, bigger is better.
   C. **Litter:** The litter should be agreeable to the cat. To determine the cat’s preference, offer a few litterboxes with different types of litter.
   D. **Hygiene:** Scoop the litterbox daily. Ideally, wash the box completely with mild detergent (best if nonscented) at least monthly.
   E. **Location:** Locate the boxes in quiet low-traffic areas that are easy to access. Spread them throughout the house to prevent one cat from blocking another’s access to a “bottlenecked” group of litterboxes. In a multistory house, 1 litterbox (or more) should be available on each level.

6. Food and Water
   A. A good quality diet that addresses the cat’s specific health and nutritional needs should be provided daily.
   B. Food and water should be offered away from litterboxes (no one wants to eat near their toilet) and in multiple locations to prevent guarding by other cats.
   C. Like the litterbox, food and water should not be placed in noisy or high-traffic areas. Food can also be made more interesting if offered in food-dispensing toys that force the cat to use its brain and eat more slowly (foodpuzzlesforcats.com). Food toys also prevent gulping food too fast, which can lead to vomiting.
   D. Some cats may be interested in recirculating water fountains, although no evidence has proven that they increase overall water consumption. Offering wet food can help passively increase water intake.

7. Social Interactions: Cats often look to their humans as companions. It is important to offer play and snuggle time to each cat that enjoys these interactions. The ideal time for play is before feeding.
   A. Offer a variety of games and toys; learn each cat’s preferences.
   B. After what intrigues the cat becomes clear, toys can be added, swapped, and rotated.
   C. Training can also provide a good bonding experience with cats. Clicker training is mentally stimulating for the cat (and is also impressive for YouTube videos).
   D. If the cat enjoys affection, provide plenty of lap time and petting.

8. Solo Play: Self-amusement is great when the client is not at home (or too tired to play).
   A. Start off with 1 toy to gauge the cat’s interest and then add, swap, and rotate the toys.
   B. Consider toys that dangle from a door knob, automatic laser toys, Hexbugs (mini robotic bugs that crawl about), ball toys that can be chased around a track, and so on.

9. Outdoor Adventures
   A. Some suggestions can be as simple as putting a bird feeder near a window for the cat to watch or leaving a window open for fresh air.
   B. Adding cat-friendly plants, such as herb gardens, can also be a big hit in terms of allowing the cat to enrich its senses with new, natural scents. Bringing in fresh leaves and putting them in a paper bag for the cat to explore can also be enriching and fun.
   C. If space is available, consider putting a kitty playpen or cat-patio enclosure (“catio”) in the yard.
   D. Cat fencing (such as the Purfect Fence) can keep cats from wandering beyond the safety of the yard.
   E. Harness walking can provide the inexpensive thrill of the outdoors and offer human/cat bonding time.

10. Medication: Sometimes medication is needed to control anxiety for cats that have conflict with other pets in the household or when MEMO does not seem to be enough to decrease anxiety levels. For these cats, the veterinarian will prescribe a medication based on the individual cat’s anxiety. If medication cannot be hidden in food, some clients may find administration challenging. To facilitate patient acceptance, clients can try over-the-counter solutions, such as pill pockets, or they can be referred to a compounding pharmacy.
A. Compounded medication can be flavored for palatability or made into different forms such as liquid, smaller tablets, or chewables.

B. If the process is still daunting, educating the client in force-free techniques with a pet piller can boost success.

**Takeaway Points**
- There are many ways to create a better feeling of safety for cats.
- MEMO focuses on controlling manageable triggers in the cat’s environment to decrease overall anxiety.
- Some cats may require medication to treat anxiety that cannot be managed.

**IMPLEMENTING THE TREATMENT PLAN**

The variety of ways to improve the environment for cats may overwhelm clients. Nurses are the ideal project managers to ensure that MEMO (which is the crux of the treatment plan) is carried out efficiently and effectively. First, review what the client has already established for enrichment, then work on “even better yet” suggestions to take it 1 step further. To make a focused plan, ask the client the following questions:

1. **How much time can you realistically invest in this project right now?**

2. **What area(s) are you most interested in working on first?** Do not try to hit all areas at once if you want the process to stick. Select projects by categories (1 of the 10 treatment areas described above). Ideally, work on goals that have the best immediate effect for the cat (usually entailing safety).

3. **Are other people in the household willing to help with this project?** Ideally, all household members should have a role in the plan, even if it is merely taking out the trash when the litter is scooped.

4. **What is your budget?** If new items are too costly, remember that used items may be just as good; homemade items can become low-cost cat towers, scratching posts, toys. Great do-it-yourself ideas—such as toys made from toilet paper tubes and other household items—are available on Pinterest.

Ask the client to select 1 or 2 changes to implement, and then schedule a check-in date and time when you can get in contact (by email or phone). If you try to contact clients but do not succeed, try at least 1 more time, but do not hound them. When checking in, discuss benefits or detractions they have noted since their visit to the office. Offer troubleshooting and support if things are not going well, praise for any attempts made, and encouragement rather than judgement if the client is not yet fully invested in the project. We are the cheerleaders who inspire our clients to want to try. If things are going well, ask if 1 or 2 new projects can be added (again, go by category) and schedule another check-in time. During each subsequent check-in, review all previous changes to ensure that each step is becoming part of the client’s new routine.

**Takeaway Points**
- Veterinary nurses can leverage the best success for clients and patients by helping with implementation of MEMO to create long-lasting changes.

- Work with the client to establish realistic goals, with scheduled follow-up contact to troubleshoot, encourage, and institute the next stages of treatment.

- Enrichment does not need to be expensive: costs can be kept low with do-it-yourself options and used cat furniture.

- Small changes lead to large benefits to the overall well-being of the cat.

Pandora syndrome is not readily recognized, but managing cats that display this syndrome does not have to become overwhelming, as long as we guide our clients through changes that can ease their cat’s signs and stressors. With appropriate steps, MEMO can lessen the reoccurrences and severity of the cat’s symptoms, minimize the need for veterinary visits, and increase the cat’s comfort and quality of life. **TVN**

**References**


