



Multimodal Environmental Modification and Feline Idiopathic Cystitis.

Feline idiopathic cystitis (FIC) is the number one reported cause of lower urinary tract disease in young to middle age cats. The clinical signs overlap with those of stones/plugs and bacterial infections. Other identifiable causes include anatomic defects (strictures/trauma/congenital), or neoplasia.



Infection, a greater concern in cats **over 10 yrs of age**, should be diagnosed via urine analysis and culture and not response to antibiotic therapy. The self-limiting nature of FIC can give the impression of antibiotic responsiveness and lead to possible repeated exposure to unnecessary antibiotics.

There is not one perfect test for diagnosis.

Idiopathic cystitis remains a diagnosis of exclusion. Nothing can exempt the benefit of a good history and physical examination. Urine analysis is a must. Urine culture is advised when indicated, along with potential various imaging techniques (full abdominal ultrasound and radiographic contrast studies). Cats with **repeated episodes** of stranguria, periuria, hematuria, dysuria and pollakiuria **warrant further investigation** beyond a urine analysis.

Obesity is a consistent risk factor across studies.



Various studies have identified other risk factors but ongoing investigation is needed. The risk factors have not always been consistent across these studies but provide support that temperament (fearful/nervousness), certain features of the environment along with diet & water intake are associated but not proven causes of FIC. A thorough history is warranted in each individual case to identify **possible triggers** or **stressors** for that particular patient. Use these two resources to help create a check list when discussing a patient's home and litter box environment. For clients with keen interests, specific video camera placement and recordings may provide further insight into household dynamics and stressors as part of management.

How do we break down the information to help owners understand the cause?

There is **not one defined cause** and the pathophysiology behind the disorder is **complex** and likely extends beyond the lower urinary tract. **Think brain, bladder and beyond.** Studies suggest there are both local bladder abnormalities and/or neurohormonal changes in at least a proportion of cats. Stress can definitely be a huge factor but the exact neural pathways that link stress to altered behaviour and an actual physical disorder are unclear. It is believed that due to genetics, environment and early developmental experiences, cats can may form an abnormal stress response. Think of them as **reactive cats in a provocative environment.** The key is being able to help the owners understand **what their cat may perceive as stress** as the word "stress" may have a different meaning for different owners.

Set up expectations and provide support

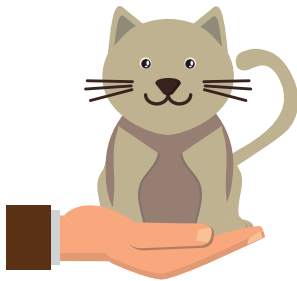
Like in other disease conditions where there is not a single therapeutic "quick fix", **education** and modification of owner knowledge, **setting expectations** and **providing support** are **golden** rules. As the disease is self limiting (most often within 7 days) response to therapy may at first seem dramatic but one needs to discuss the possibility of recurrence. Response to therapy will likely need to be evaluated over a period of several months and not days/weeks.



Success is possible

Consider this statement from the authors of a USA shelter study, "Our results suggest that when cats with periuria underwent appropriate medical diagnostics and treatment and their prospective adopters were counseled with full reviews of behavioral and medical needs, they were adopted at similarly high rates as the control population. Importantly, the rates of euthanasia and return rates were low for periuria cats similar to the control population." One of the key components of husbandry in the shelter for housesoiling cats was a litter substrate trial.

Therapy is should be MULTIMODAL and needs to involve the entire veterinary team.



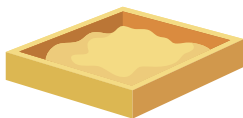
Knowing the role that environment and husbandry plays let's **first think prevention.** Start checking in at kitten vaccine appointments. Let owners know there is much more to a vaccine appointment beyond the vet quickly injecting the vaccine. Help them plan for fear free vet visits. On the clinic side, empower vet technicians to play a critical and creative role in history taking along with environmental, husbandry and nutritional education!

Pillars of Treatment and Resources

- Remember **brain, bladder** and **beyond**. In addition to ruling out a specific cause of urinary tract disease consider that many FIC cats have comorbid conditions involving the gastrointestinal tract, skin, lung, cardiovascular, central nervous, endocrine, and immune systems. **Treat comorbid** conditions appropriately and consider the role stress/environment may be playing in each disease manifestation.
- **Remove stressors** and **give a cat control**- this can involve creating space to move and **think upwards!** Space helps avoid conflict and allows for natural behaviour expression. **Spread out food, water, scratching and toileting resources** to avoid guarding in multicat households. Allow for easy access to litter boxes but place litter boxes in multiple **appropriate locations**.
- Dr. Rochlitz notes that “if the cat has a variety of behavioural choices and is able to exert some control over its physical and social environment, it will develop more flexible and effective strategies for coping with stimuli.” Cats need to be able to choose who they want to see when going from location to location be it food, litter box, play, scratch or sleep.
- Did you say **play**? Cats hunt for food and **fun!** Environmental enrichment on multiple levels is key. Play is important.



- Respect cat litter box preferences and keep it clean! Note bigger litter boxes that mimic a sandbox can allow for more natural elimination behaviours and may be preferred. Cats that hesitate, or pop in and out several times may feel frustrated with their box.



- Respect a cat's sense of **smell** -scented litter may be a No!
- Complete **access to outdoors** is a usually a personal choice but indoor cats with FIC can benefit from safe access to outdoors from giving them a stimulating view, a "Catio" enclosed patio or leash walks.
- **Human interaction** -Provide positive, consistent and predictable human-cat social interaction.
- **Diet** - several studies have documented the benefits of diet in the management of FIC. Make sure diet transition is appropriate. Veterinary devised and supervised weight loss plans will also be important at the right time.
- Environmental **Facial Pheromone** therapy may be helpful
- During **acute episodes** of lower urinary tract symptoms **manage pain** appropriately along with ensuring adequate hydration and nutritional intake. Pain adds more stress! Additional medical therapy (antispasmodic, anti-inflammatories) lack strong evidence but may be considered. Cerenia and Gabapentin are therapies of interest but need to be studied further.
- **Avoid** unnecessary antibiotics.
- **Anti-anxiety drug therapy** may benefit particular cases
- Specific consultation with a **behaviour medicine specialist** may be needed in chronic cases with no other obvious cause.

It is not a cookbook recipe for each cat but environment, decreasing stress and diet will be the essential starting points.

- [Colorado Indoor Cat Initiative](#)
- [Feline Environmental Needs Guidelines](#)
- [Dr. Daniëlle Gunn-Moore - YouTube Videos](#)
- [Guidelines for Diagnosing and Solving House-Soiling Behavior in Cats](#)
- [First time kitten owner resource](#)



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