

Feline urinary tract disease (when good cats have angry bladders)

One of the more frustrating problems I deal with as a veterinarian is cats and their bladder problems: the inflammation they get in their bladder that causes painful, bloody urine, often outside the litter box.

It's such a convoluted topic, no one can even agree on what to call it! When I was in vet school, we called it FLUTD, which stood for Feline Lower Urinary Tract Disease. Then the trend changed to calling it FIC - Feline Idiopathic Cystitis. Some people also call it FUS - Feline Urologic Syndrome. I kinda like the last one best, because it starts with "F U" and I feel like most of the time that is what the cat's bladder is saying to us all!

The most common name right now is FIC, so that's what I'll call it in this article. Interestingly, all three names are very vague and non-specific, because we still really don't know what exactly is going on to cause some cats to have such problems.

The textbook cat with FIC is a young/ middle-aged neutered male, indoor only cat who probably is on the pudgy side. Life seems to be good until he begins to urinate in random spots throughout the house. Most owners clean this up the first few days thinking it will pass...which it often will. Then when they clean up one mess and see blood in the urine, it's panic-city. And yes, cats with this syndrome can have VERY bloody urine. (I'd freak too if I was seeing that come out of my cat!) These episodes last 7-14 days, then seem to resolve in most cases. In some cats, the syndrome leads to the formation of bladder stones. A male cat then tries to pass these stones through his long and winding urethra, and they can get lodged, causing a urinary obstruction, or "blocked cat." This is a medical emergency and can be fatal! ([Click here for the article on urinary obstruction.](#))

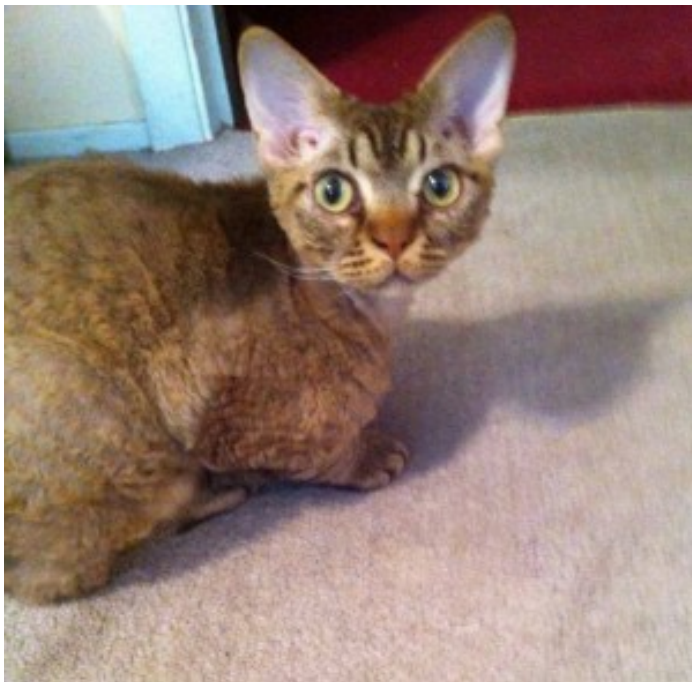
This article focuses on (hopefully) nipping this in the bud before a cat becomes obstructed and requires days in a veterinary hospital.

So what's going on here?

For reasons not entirely understood yet, many cats (usually male, but girls can get it too!) experience a rather sudden inflammation in the bladder. It feels like a bladder infection (if you've ever had one, you know the misery) in that it hurts all the time. They feel like they always have to go, but it burns when they do go. And the second they're done, they feel like they have to go again.

Many cats blame the litter box. It makes sense, if you think about it. You're in the box, you pee, it hurts. Something in that box must have gotten you! So you go on a quest throughout the house, searching for a place you can pee without pain. Under the dining room table? No, it hurt there too. Let's try the bedroom. Dang, still burns there. Cats don't understand that the common denominator is THEM!

What causes this all of the sudden? No one has the exact answer, as there are many factors. Remember, with cats, nothing is simple. Ever.



Crystals in the urine

We used to think crystals in the urine were the centerpiece of FIC. Theory was that these microscopic crystals were raking along the lining of the bladder, irritating it. Some of these crystals would converge and form sand, or even stones in the bladder. Now the theory is changing, where crystals tend to be found in the urine of cats with FIC, but they are more a by-product and not the cause. Cats with crystals in the urine tend to be more prone to FIC, although some cats have crystals in their urine and never ever have an episode of FIC, so it can't be a

definitive cause.

The lining of the bladder

We're now learning that instead of the crystals *causing* damage to the lining of the bladder, it's the other way around. The bladder lining is defective to begin with, and the crystals are there to irritate it more. Think alcohol in a paper cut. The cut is there and it hurts. Comparable to the lining of the bladder being damaged. The alcohol (or the crystals) just add insult to injury, but the alcohol did not cause the paper cut.

Stress

This is the big factor in causing FIC episodes! Researchers have discovered that cats with FIC have an imbalance of hormones that help cats deal with stress. So, if you rearrange the furniture for the Christmas tree, a normal cat could deal with that OK. A cat with FIC would find that very disturbing, and likely have a flare-up in terms of urinary symptoms (bloody urine in various spots). Trying to reduce stress in these kitties is the centerpiece of treatment for FIC.

Diet

Food alone will not cause a normal cat to get FIC. Many veterinarians think it's in a cat's DNA if he or she is going to get FIC or not. That said, diet can help or hurt. Actually, it can make or break some cats! If a cat is prone to FIC, the wrong diet can tip them over the edge, causing more flare-ups. How? Lots of reasons. The main two are:

- Urinary acidity: every food affects the pH level of urine. Foods that increase the pH, or make the urine less acidic and more basic, tend to cause an increase in FIC flare-ups.
- Minerals: Most bladder stones (I'm skipping a little, but bear with me!) are made of Magnesium and/or Calcium. Foods that have lots of these give a cat more raw materials to work with. Again, a normal cat can deal with excess just fine, but in a cat with FIC, why add more fuel to the fire?

So now what. You have a stressed out cat who won't use the litter box and is peeing blood. No one is happy. This is the part where you don't like what I am going to tell you.

I could lie and say “Let’s give him pain meds and an antibiotic, and he’ll be fine.” But it isn’t nice to lie. Those medications do not help treat FIC. Most flare-ups last for 7-14 days regardless of treatment. So your cat has been peeing blood for a few days, you get him to the vet, he gives a magic shot, and the symptoms clear up after a few more days. Was it the shot? Not really. It was going to go away on it’s own....until next time!

The main reason is this - **FIC is NOT a bladder infection!**

More than 95 - 99% of cats with this disease have NO bacteria in their urine. How will you know if your cat is the minority that actually has an infection? Your vet may perform a urine culture. This is *not* a urinalysis (the test we all do as a first step when treating these cats) which is the test that tells us if there’s blood in the urine, the pH of the urine (acidity) as well as look for crystals. A urine culture is very different. It involves putting the urine on a petri dish (AKA culture plate), putting that in an incubator, and checking it the next day to see if any bacteria grew on it. A lot of vets send this to the lab to be done. It takes at least 24 hours to know if there is an infection or not. We cannot tell by looking. As you can imagine, we see some pretty gnarly looking pee under the microscope - it’s got blood and crystals, but those do not indicate bacterial infection. Sometimes we will see bacteria in the urine, but this could be from the microscope slide, the tube we processed the urine in, or, most commonly, the stain we use to read it better. So bacteria seen in urine does not equal infection!!

So if there’s no bacteria and no infection, there is no reason to give an antibiotic!! There’s nothing to kill! And giving an antibiotic willy-nilly every time a cat has symptoms can actually be shooting us all in the foot for later. Giving antibiotics frequently over the course of a lifetime will lead to antibiotic resistant bacteria setting up house. (You know, that “super-bacteria” you hear about on the news?) Nothing is more frustrating than a cat getting an infection when they’re older, and we test it and find only one or two antibiotics in the world will work. Don’t be that cat!

(There are some veterinarians who feel antibiotics have some anti-inflammatory effects in the bladder, and still use them. This is currently being debated among the leading specialists, but if your veterinarian wants to give an antibiotic *every once a while*, it isn’t totally crazy!)

OK, so maybe I feel a little strongly about that. ☐ What to do for a cat that's miserable? We have to do something!

First we must accept that this particular flare-up will go away ([unless they become obstructed - different article.](#)) Our focus is on comfort now, yes, but also on preventing or minimizing future flare-ups! Here's a few things we veterinarians like to do. Depending on your cat, your vet will choose which treatment options are most appropriate. This is a multi-faceted approach. This is war, and we need multiple weapons!



Fluids

Cats aren't normally big drinkers, so their urine is often very concentrated, and their bladder tends to not get overly full. Giving fluids to a cat will make them produce more urine. This urine will be more dilute (less caustic on that painful bladder). Also, the act of stretching out the bladder by letting it get a little more full is now thought to help release some of the inflammatory molecules from the

nooks and crannies of the bladder wall. Imagine a balloon that is not inflated. You paint the outside and let it dry. When you blow up the balloon, the paint will stretch a little, but will crack and flake off. Imagine the “bad things” in the bladder flaking off like paint when it is distended. Your vet will likely give your cat “sub-cue” fluids, which means IV fluids given under the skin. It only takes a few minutes, and your cat can go home, slowly soaking up the fluids.

Anti-spasm medication

When a cat is having an FIC episode, the urethra tends to become inflamed and spasm. (The urethra is the tube they pee through that connects the bladder to the outside world). When it spasms, it makes the cat feel like he has to go. All. The. Time. We have medications for this, which help. They don't address the bladder, only the urethra, but every little thing helps!

Environmental Enrichment

This goes along with the “eliminate the stress” portion of our program. Indoor only cats may be bored. They don't have to hunt for their food, and there isn't a whole lot of action usually. So it's up to us to provide some mental stimulation which may, in turn, relieve some anxiety. Scratching posts and cat trees can offer alternative views and activities. [Here's a good synopsis](#) of ways to give some variety in a cat's life inside. Also, [Ohio State University has a great site called the Indoor Cat Initiative](#), which offers ideas as well.

Anti-anxiety medications

With stress being the center point of this disease, it stands to reason that treating the stress would treat the disease. Bummer is, any anti-anxiety medication (like Prozac) takes weeks to start working. So for chronic FIC cats, they may be a great solution, but they won't get you over the hump in a sudden flare-up. Another option to address anxiety is pheromones. I know it sounds bogus, but there have actually been controlled studies that show [Feliway](#) being effective in 84% of cats. [Feliway](#) is one brand of pheromone that comes as a plug-in - like a room fragrance, only without the smell. You know when cats rub their face and whiskers on a surface (or person) to “mark” it? Well they made a chemical like that and put it in an air-freshener type device. While we cannot smell it, cats can detect it. It sends the signal “You've marked all of this. Everyone knows it's all your domain. No need to stress about it.” That signal reduces anxiety in many

cats.

Pain medications

No one really knows how much these help, but we sure want to make these poor kitties feel better. Some pain medications can be rough on the kidneys (the ones called non-steroidal anti-inflammatories, or NSAIDs), so we tend to avoid those for this disease. Most vets will use morphine-related drugs like buprenex or tramadol. They may help relax the urethra as well - double bonus!

Prescription Diet

This is big!!! First, we are now recommending canned food whenever possible. Canned food has more water in it, and with cats not being big drinkers, it's an easy way to sneak in more water, making their urine less concentrated on a daily basis. Also, a prescription food designed for cats with FIC is important. Remember how food can impact the pH of the urine? These foods are designed to produce a urine pH within a tight acidic range. They also have less of the building blocks for crystals and stones (Magnesium, Calcium, etc). Nowadays, they are even adding glucosamine-type ingredients to these foods, to help strengthen the lining of the bladder. (Remember, that lining is defective in these cats). Finally, in the last year, several makers of prescription food started addressing the stress component of FIC (the biggest part!). They are adding ingredients such as tryptophan and casein (a milk protein), among others, that have a calming, anti-anxiety effect.

Glucosamine-type supplements

The current thinking is the lining of the bladder is made of molecules called PSGAG's. The building blocks of these are glucosamine-type molecules, often found in joint supplements. So it stands to reason that supplementing these may help strengthen the lining of the bladder. Adequan is a very good option, which is an injection. Oral options include Dasuquin or Cosequin. Again, these are less likely to cure a flare-up, but are good long-term maintenance options to prevent future flare-ups.

Increase water intake

So we're already feeding canned food to sneak more water into the cat. There are

other tricks as well. Many cats are attracted to moving water, so adding a water fountain to his drinking options often increases a cat's water consumption. Also consider having more than one water bowl in a couple different rooms. These should be away from litter boxes. Some cats are interested in ice shavings as treats as well.

So, you can see there are many angles to attack this disease! Unfortunately, it usually takes this multi-weapon approach to have success. *Even then, many cats may still have occasional flare-ups.* These treatments often help, but it is important to remember THERE IS NO CURE. Some cats respond beautifully to treatment, while others have bladders that do not cooperate. I actually had one patient who was successfully getting all of the above mentioned treatments routinely, and STILL had painful flare-ups very often. We even went to far as to biopsy his bladder! No earth-shattering diagnosis. We had officially tried everything. The only thing left was having their house professionally feng-shui-ed for the cat. That's where they drew the line.

One more important point:

This article talks about cats who have flare-ups of bladder inflammation and bloody urine. In some cats, this syndrome progresses to the formation of bladder stones. When a male cat attempts to pass a stone through his long and skinny urethra, it's like a square peg through a round hole - it does not work! [These cats become obstructed and are unable to urinate. If you see your cat straining to urinate and no urine has been produced for hours, this is a big deal!](#) *Cats who are obstructed need to be taken to a vet immediately.* Do not wait until the next day. If not treated aggressively, your cat will die. Period.