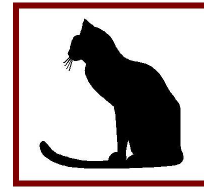


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## FELINE LOWER URINARY TRACT DISEASE

Feline Lower Urinary Tract Disease (FLUTD) describes a collection of conditions that can affect the bladder and urethra of cats. In the past this has been called Feline Urologic Syndrome (FUS). Cats with FLUTD usually show signs of difficulty and pain when urinating, increased frequency of urination, and blood in the urine. Affected cats tend to lick their genital area excessively and sometimes will urinate outside the litter box, often preferring cool, smooth surfaces like tile floors, bathtubs and laundry baskets.

### Contributing Factors

While the condition can be seen in cats of any age, it is most frequently seen in middle-aged, overweight cats that get little exercise and eat a dry diet. Environmental factors are also thought to increase the risk of developing FLUTD. These include things that increase stress for the cat like living in a multi-cat household, changes in interactions with the owner, and changes in the cat's routine.

### *Signs of Lower Urinary Tract Disease*

- 1. Straining to urinate*
- 2. Frequent and/or prolonged attempts to urinate*
- 3. Crying while urinating*
- 4. Excessive licking of genital area*
- 5. Urinating outside the litter box*
- 6. Blood in the urine*

### Prevalence

The incidence of FLUTD in the general cat population is estimated at about 1%. Both males and females are equally affected. Certainly many more cats are affected by this disorder than are presented for veterinary care; some studies estimate 5-10% of all clinic admissions for cats may involve FLUTD.

### How is FLUTD Diagnosed?

Although cats with lower urinary tract disease behave in similar ways, the potential causes are multiple. Urinary tract infections, urinary stones, urethral plugs, cancer, and other disorders all can affect the bladder and urethra of the cat. Your veterinarian will perform a physical exam, collect urine for a urinalysis, a urine culture and a blood sample to look at the kidney function among other things. Radiographs (x-rays) of the bladder and an abdominal ultrasound may also be recommended.

## **What are the causes of FLUTD?**

### **Feline Idiopathic Cystitis**

Feline idiopathic cystitis (FIC)—also called interstitial cystitis—is the most common diagnosis in cats with lower urinary tract signs. This is a diagnosis of exclusion, meaning the term FIC is used if all diagnostic tests fail to confirm the presence of another cause such as an infection or stones. Cats suffering from this make frequent attempts to urinate and often have blood in their urine. If the cat is not obstructed (unable to urinate), then this will resolve in a few days to a few weeks.

Veterinarians have noted many similarities between FIC and a bladder disorder affecting humans called interstitial cystitis. In both the human and the cat a psychologically stressful event often precedes the onset of lower urinary tract discomfort. Environmental changes, number of cats in a household, changes in the feeding schedule, and changes in the owner's schedule are all possible sources of stress for a cat.

Treatment involves providing pain relief and antispasmodics to keep your cat comfortable. Your veterinarian will also recommend dietary changes that may help reduce the frequency of flare-ups. Reducing your cat's stress can decrease the frequency and severity of FIC episodes. This can be achieved through environmental enrichment and modification like providing plenty of safe, clean areas to urinate, as well as opportunities to express natural predatory behaviors, and space to get away from other cats. Interactive playtime with fishing pole-like toys or laser pointers, providing climbing posts and boxes for hiding and rotating what toys are available all help create a more stimulating environment.

### **Urolithiasis (Urinary stones)**

Another possible cause of FLUTD is urinary stones in the bladder or the urethra. These are rock hard collections of minerals. The stones can be made of several different things. The two most common stone types in cats are struvite and calcium oxalate. Radiographs (x-rays) and/or ultrasound are usually needed to make this diagnosis.

For cats with struvite stones, a special stone-dissolving diet may be prescribed to eliminate them. If the diet fails to dissolve them, surgery becomes necessary. Unlike struvite stones, calcium oxalate stones cannot be dissolved with a special diet. The stones, if small enough, may be flushed from the bladder using sterile fluid. However, larger stones and stones in male cats usually require surgical removal via *cystotomy*. A cystotomy involves making an incision through the belly, lifting the bladder into view, opening it and removing the stones.

Cats that have formed a stone are at increased risk of further stones in the future so your veterinarian will recommend medications or dietary changes to help reduce this risk.

### **Urethral Obstruction**

The most serious problem associated with FLUTD is urethral obstruction. This is when the cat's urethra (this is the tube that carries the urine from the bladder to the outside), becomes partially or totally blocked with small stones, mucous and blood, or a collection of minerals also called sand. This is potentially life threatening. When the urethra is blocked, the kidneys are no longer able to remove toxins from the blood and maintain a normal balance of electrolytes and fluids in the body. If the obstruction is not removed the cat will lose consciousness and die. The time from complete obstruction until death may be less than 24-48 hours, so immediate treatment is essential.

This problem is much more common in male cats than females because their urethra is longer and narrower. The cat that is obstructed behaves similarly to any cat with FLUTD: straining to urinate, frequent attempts to urinate and produces little if any urine. As time passes they become increasingly

distressed—often crying in pain and sometimes “walking funny”.

This is a true medical emergency and it is important to get your cat to a veterinarian as soon as possible. The treatment involves sedating your cat to pass a urinary catheter into the urethra to relieve the obstruction, placing an intravenous catheter to correct fluid and electrolyte imbalances, and usually several days in the hospital with a urinary catheter in place to allow time for the swelling to go down in the urethra. Antibiotics and medications to help restore bladder function and reduce pain and swelling are sometimes needed.

For cats that continue to experience urethral obstruction or fail to respond to medical therapy, a surgical procedure called *perineal urethrostomy* may be required. This surgery involves removing much of the penis and the narrow portion of the urethra, leaving a new, wider opening. Side effects of surgery can include bleeding up to 10 days after surgery, narrowing at the surgical site, urinary incontinence, and a greater incidence of other kinds of bladder diseases like infections. For these reasons, perineal urethrostomy is usually considered a last resort.

*Inability to urinate is a real medical emergency, seek immediate veterinary care*

## What can be done to prevent future recurrences?

### Diet

Many commercial pet food manufacturers market diets labeled for “urinary health”. These over the counter diets are usually formulated to prevent the occurrence of struvite type stones by reducing magnesium levels and creating more acidic urine. However, there is little evidence at this time that they will help with Feline Idiopathic Cystitis. They definitely will not help and could make worse, those cats that form oxalate type stones. There are several prescription diets formulated to help either oxalate or struvite stone forming cats. Your veterinarian will make recommendations for your cat’s specific problem.

The one universal recommendation for cats with all types of FLUTD is to try to get them off dry food and onto an all canned food diet, no matter what the type. This helps them take in more water, keeping the urine more dilute. It is also important to encourage water intake by keeping fresh water available at all times, perhaps using one of the re-circulating water fountains to encourage more interest in drinking.

### Medications

Not only do some cats refuse to eat the diet that was prescribed, but some also refuse to eat canned foods. For these cats there may be medications that will help reduce the incidence of calcium oxalate or struvite stones. If your cat’s problem is FIC instead, anti-inflammatory medications may be prescribed. What works in one cat may not work in another; anti-inflammatory medications, steroids, pain killers, fatty acid supplements, anti-anxiety medications and glucosamine supplements are all things that may be used to help your cat. Studies are ongoing in an attempt to find effective therapies for cats with FLUTD.