

Feline Lower Urinary Tract Disease

Feline Lower Urinary Tract Disease (FLUTD) is not a specific disease process, but a collection of clinical signs: bloody urine, straining to urinate, painful urination (vocalizing), frequent urination of small amounts of urine, and urinating in inappropriate places. Sometimes a specific cause is found, but often no obvious reason for the signs is discovered (in approximately two-thirds of cats with these signs). The vast majority of cats with lower urinary tract issues have signs consistent with FLUTD. In some cats where no underlying cause has been found, cystoscopy (a small camera inserted into the bladder) has documented characteristic bruises on the inside wall of the bladder (called petechiae), leading to a diagnosis of feline interstitial cystitis. This diagnosis is very similar to the syndrome of interstitial cystitis in humans ("painful bladder syndrome"), which is a condition that causes pelvic pain with painful and frequent urinations (typically in women). The causes for interstitial cystitis (IC) in women are also poorly understood, and no singular treatment is effective in all people with IC.

Other potential causes for signs of FLUTD include stones in the bladder/urethra (uroliths), urinary tract infection (uncommon in cats without other predisposing factors such as diabetes mellitus, kidney disease, or immunosuppression), or cancer of the urinary system. This is why diagnostic tests are typically recommended to rule these other causes in/out, including x-rays of the abdomen with or without contrast medium (to rule out stones), a urinalysis and urine culture (to look for evidence of an infection), and often an ultrasound of the urinary system (to look for any evidence of cancer).

The most severe complication of FLUTD in cats is a life-threatening urinary blockage resulting in the inability to urinate (urethral obstruction). This obstruction is much more likely to occur in male cats, due to the narrow diameter of their penile urethra. The obstruction is usually caused by a urethral "plug", which is a collection of protein, red and white blood cells, and mucus, often with some crystals within it. A less common cause of obstruction is a stone (urolith) lodged in the urethra, which is why we always recommend looking for a stone with x-rays (because a stone would need to be surgically removed, or it can cause an obstruction again later on).

Common signs of a urethral obstruction (UO) include vocalizing, going in and out of the litter box repeatedly, straining or posturing to urinate unproductively, vomiting, and lethargy. A urethral obstruction is a potentially life-threatening emergency. When urine cannot be removed from the body, the toxins that the kidney normally removes from the bloodstream start to accumulate in the body. Specifically, potassium levels can become very high, which result in heart abnormalities, including arrhythmias (abnormal heart rhythms) which can result in death. For this reason, if you ever suspect that Sylvester may have a urinary obstruction, he should be seen by a veterinarian as soon as possible. Cats that have obstructed in the past may re-obstruct in the future.

Risk factors for idiopathic FLUTD include consumption of dry food exclusively, confinement indoors, and excessive body weight. It is also believed that environmental stress may play a role in the development of these signs, though the type, severity and duration of the stressors that are most likely to result in FLUTD have not yet been determined.

Most recommendations for prevention of future FLUTD episodes focus on the reduction of some of these risk factors:

1) The addition of increased moisture to the diet, including the availability of canned food as well as dry food (or ideally, feeding canned food exclusively), and the provision of fresh water at all times. Multiple water bowls should be available, and cleaned and changed frequently. Some cats may be more likely to drink running water - obtaining a cat "water fountain" bowl should be considered (on the internet, search for "cat" or "pet" with "water fountain" or "fountain bowl" for options). Some cats may prefer distilled or bottled water. Some cats will also accept eating food that has added water mixed into it to increase the moisture consumption further - this should be introduced gradually. Increased moisture in the diet helps to reduce the chances of crystal formation in the urine, which can contribute to urethral "plug" formation.

2) There are some special prescription foods that are designed for cats with lower urinary tract disease. These foods are designed to increase the moisture content of the diet and reduce the chances of crystal formation in the urine. Three of these products are Royal Canin Urinary SO, Purina UR and Hill's c/d Multicare, Hills c/d Stress formula, Royal Canin Urinary Calm formula. Your veterinarian can provide you with some samples of these diets if you are interested.

3) A program of slow, careful weight loss in cats that are excessively overweight. Please discuss any plan for weight loss in advance with your regular veterinarian as all plans for dietary restriction should be evaluated and monitored by a veterinarian.

4) There are numerous environmental modifications that have been suggested may promote a lower stress environment for cats prone to episodes of idiopathic FLUTD. All environmental changes should be introduced gradually, one at a time, to reduce any stress associated with these adjustments. In addition, steps should be taken to limit the amount of changes or unusual events that occur in your household, as any significant alteration to a cat's typical routine may be stressful. These recommendations include some suggestions for litter box management, food and water management, and other environmental considerations.

a) Litter boxes: These should be located on each level of multilevel houses, should be in a private location so that they cannot be "surprised" by another animal while using them, should be away from noisy appliances and air ducts, should be kept clean and regularly scooped, washed weekly with a mild detergent (such as dishwashing liquid), filled with unscented litter, and the type/brand of litter is not changed frequently. The general recommendation for the appropriate number of litter boxes in each household is that they should equal the number of cats in the house + 1 extra. Additionally, many cats prefer open litter boxes to those with a cover or lid.

b) Food and water: In addition to what has been described in 1) and 2), each cat should have its own food and water bowl in a private location that prevents being "surprised" by another animal while eating and drinking, they should be located away from any noisy appliances and air ducts, should be away from the litter boxes, and should be kept fresh with bowls that are washed regularly (weekly). If new food is offered, it should be offered in a separate dish next to the familiar food so that the cat has a choice of diets.

c) Environment: Enrichment should be provided, including scratching posts, regularly replaced or rotated toys, hiding areas and resting areas for each cat. Cats should have opportunity for activity and movement, as well as social interaction with people and/or other animals.

5) Pheromonotherapy: These are substances that are produced by glands in cats' faces that are deposited by facial rubbing when a cat feels safe and at ease. Feliway® is a synthetic analogue of the natural pheromone of cats. It is available as a spray for local use (such as on locations where the cat has inappropriately urinated in the past, or in the cat carrier at least 15 minutes before a car trip), or a plug-in diffuser that lasts for 30 days (placed in the room where the cat inappropriately urinates). The effects of this product have not been proven efficacious for use in cats with FLUTD, though they have been found to reduce anxiety-related behaviors in cats in some circumstances.
<http://www.feliway.uk.com/>

Other treatments sometimes used:

6) Analgesics: Pain-reducing medications have been used for the treatment of this condition - to reduce the pain that is associated with short-term flare-ups of the disease. Another drug that is used is an antidepressant drug with analgesic properties (amitriptyline). Amitriptyline may be beneficial when taken for long term prevention of FLUTD episodes in cats with a history of multiple bouts of illness. However, further study is needed to prove the efficacy of this drug for this disease in a large well-controlled clinical trial. Other antidepressants have also been used anecdotally for this condition in some cats.

7) Antispasmodics: In the short term following a urethral obstruction, a smooth muscle relaxant may be used to reduce the chances of reobstruction (phenoxybenzamine, prazosin) due to spasm of the muscles lining the wall of the urethra.

8) Glycosaminoglycans (GAGs): These are substances that are found in the mucus layer that covers the lining of the bladder, and helps to protect the cells of the bladder lining from inflammation. It is thought that abnormalities in this mucus layer may contribute to inflammation and pain associated with this syndrome. Therefore, supplemental GAGs may be given orally. One such supplement is Elmiron (pentosan polysulfate), which is used for women with interstitial cystitis. Veterinary products are also available (Cosequin, Adequan), but they have not been studied for this condition in cats.

9) For male cats that have repeated bouts of UO (urethral obstruction), a surgical procedure to widen the diameter of the urethra (called a perineal urethrostomy) may be necessary to reduce the chances of future UOs. It is important to recognize that this will not eliminate the inflammation of the bladder wall associated with idiopathic FLUTD, and thus clinical signs of FLUTD may still occur.