

## Feline Lower Urinary Tract Disease (FLUTD)



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Unfortunately, it is very common for cats to have symptoms associated with their lower urinary tract. Feline Lower Urinary Tract Disease, or FLUTD, refers to any of the many possible underlying conditions causing the symptoms. Given the myriad of potential underlying conditions, it is essential to determine the cause of FLUTD to determine how best to treat the kitty.

The lower urinary tract (LUT) consists of the bladder, the urethra (the tube that leads from the bladder to the outside), and the urinary opening itself. Some possible causes affecting the LUT are bladder stones, infection (UTI), crystals, tumors, or sterile inflammation (commonly referred to as Feline Idiopathic Cystitis or FIC). These conditions can result in similar or overlapping symptoms – bloody urine, urinations in unusual places, straining to urinate, discomfort, or urethral blockage.

Some signs of LUT discomfort could include licking the urinary opening, vocalizing while urinating, acting lethargic or agitated, going in and out of the litter box frequently, and sometimes only producing small amounts or no urine. If the cat is not producing any urine at all, it could indicate a urinary blockage. Although possible in female cats, a urinary blockage is most often only a concern in male cats with a narrower urethra that can more easily become blocked by crystal and mucous secretion due to inflammation. So, if a male cat is seen to be straining and not able to produce urine, it is considered a possible EMERGENCY, and he should be evaluated by a vet right away.

When cats are straining to urinate, it is essential to differentiate the urination posture from defecating. A cat's posture for urination has a straighter backline. When cats are defecating, their backs are more arched up.

Some of the diagnostics for cats showing these symptoms include a physical exam, x-rays (to look for stones), and a urinalysis (to evaluate for crystals, blood, bacteria and to determine the urine pH). A urine culture is sometimes done to confirm a UTI and show the type of bacteria causing the infection to choose the most effective antibiotic. An ultrasound of the bladder is also sometimes performed to look for bladder stones that may not be visible on x-ray, look for abnormalities in the bladder wall itself, or check for tumors. Depending on the type, the treatment could be either surgical removal or dietary management if a stone is found. Sometimes both a stone and infection are present at the same time. If many crystals have not yet formed into a stone, then dietary management and increased water consumption help dissolve the crystals and prevent further formation. Water consumption can be increased by feeding the cat a canned food diet and providing plenty of fresh, clean water sources around the house. Some cats prefer large bowls; some prefer fountains. Some cats like to find many new water source options around the house. As such, try to tailor the water source based on the cat's preference.

The cat's age can help determine the underlying cause as well. Cats older than 10 are more likely to have an infection as the cause of their FLUTD, whereas younger cats are more likely to have sterile inflammation. The latter is a diagnosis of exclusion.

Cats that get FIC syndrome have a unique imbalance in how their brain and bodies process their stress reaction. They are neurologically different in a way that makes them extra reactive to any changes in their world – extra anxious and extra sensitive to pain. Similar to someone getting an upset stomach from a stressful situation, these cats get an "upset bladder."

FIC syndrome is a condition that is easier to prevent than treat. The urinary bladder is lined with glycoproteins (PSGAGs) that insulate the bladder tissue from urine, which can vary in pH, abrasive crystals, toxins, and other irritants that the kidneys have filtered out from the blood. When certain cats are anxious the protective PSGAG layer becomes patchy. In the past, the management of FIC mostly consisted of dietary management to decrease urinary crystals, change urine pH and ways to improve the PSGAG layer. But more recently, it was realized that the most important of all is to reduce the cat's stress, which is the underlying cause of the FIC syndrome.

FIC is very painful, and an episode can last one to two weeks. During this time, attempts should be made to manage pain and urinary discomfort. Treatment during an episode consists of antispasmodics and tranquilizers like phenoxybenzamine, acepromazine, and prazosin. Analgesics are also used with or without anti-inflammatory effects (Fentanyl patch, buprenorphine, robenacoxib). They help painful urethral spasms that occur with inflammation and help dilate the urethra so that urine can pass. A complication of FIC in male cats can also be secondary urine blockage if there is also the presence of crystals or mucous from inflammation.

These extra sensitive kitties need a predictable environment with the same food, schedule, litter box situation, and plenty of quiet and privacy. They can pick up on the stress that their humans are feeling and can be negatively affected by changes of any kind, including changes in household members, construction, weather change, and even subtle changes, such as new or moved furniture. It also helps to make sure that cats have an enriched environment. The "Indoor Cat Initiative," sponsored by The Ohio State University, is a good reference source, providing many excellent suggestions on how this can be accomplished. Some cats can also benefit from Feliway or anti-anxiety medications and certain anti-stress foods as well.

So, know that this is very common if you see your kitty demonstrating any symptoms that make you concerned that they may have an issue with their LUT. If your cat is younger, the most likely problem is FIC, and if your cat is older, other issues like a UTI would be higher on the list of possibilities. Regardless, you should have your kitty evaluated by a veterinarian (ASAP if he is not producing any urine) to help determine the underlying cause and develop the best treatment and future prevention plan.