



# WINN FELINE FOUNDATION

For the Health and Well-being of All Cats

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637 Wyckoff Ave., Suite 336, Wyckoff, NJ 07481 • [www.winnfelinefoundation.org](http://www.winnfelinefoundation.org)  
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## Feline Lower Urinary Tract Obstruction

Matthew Koryna, DVM, ©2015

Lower urinary obstruction is the end result in many cases of untreated lower urinary disease in cats and is characterized by an inability to urinate due to blockage of the urethra (the tube leading from the bladder to the outside). Commonly referred to as a “blockage”, lower urinary obstruction occurs almost exclusively in male cats due to their long, narrow urethra (though blockage in female cats is possible as well). Obstruction of the urethra results in an inability to urinate causing pain and distress. This can progress quickly to kidney failure and potentially death due to high potassium levels and toxin buildup.

Blocked cats may vary significantly in their appearance. The most ill cats may be lying on their side, minimally responsive, with tremors, extreme pain and difficulty breathing. On the other end of the spectrum, cats may be walking, bright and alert, with an inability to urinate as the only complaint. Any cat (especially a male cat) who is straining in the litter box and unable to urinate should be taken to a veterinarian immediately, as early treatment of blockage carries a better prognosis. Cats that are urinating outside of the litter box, urinating frequent small volumes, have blood in their urine, or experience pain when urinating should also be treated promptly in order to prevent blockage.

Cats obstruct for many reasons, as any disease causing a decrease in the diameter of the feline urethra may cause urinary obstruction. Causes of blockages include (but are not limited to):

- **Bladder stones, silt and crystals:** These are all various forms of minerals that may coalesce within a cat’s bladder. These calculi may cause irritation and inflammation to the bladder wall, bleeding of the bladder wall, and are associated with pain and difficulty urinating. Large stones or aggregates of smaller stones (sometimes mixed with blood or mucous) may lodge in the urethra and cause an obstruction. While genetic factors are definitely at play in the formation of stones and crystals, diet is also a major factor. Cats who eat primarily dry/kibbled diets, diets with a high mineral content, and diets that predispose to very high or low urinary acidity are much more likely to form urinary stones.
- **Feline Idiopathic Cystitis (FIC):** This is the most common cause of feline lower urinary tract disease and one of the most common causes of urinary obstruction. This disease is defined by inflammation, pain, and damage to the bladder wall without an obvious external cause. While the disease process is not fully understood, stress is known to play a major role in the development of FIC. Diet, obesity, and genetic factors also likely play a role.
- **Infection:** Bladder infections are actually very uncommon in healthy, adult male cats. Usually a cat with a bladder infection has an underlying cause that has predisposed to this infection. These may include kidney disease, diabetes, or even severe obesity. Bladder stones in cats, unlike dogs, are not commonly associated with infection. Infections may lead to inflammation of the bladder wall and urethra and can lead to obstruction with blood clots, inflammation and spasm, or even pus and bacteria.
- **Other:** Other, less common causes of obstruction include birth defects causing malformed urethras, cancers of the bladder and urethra, or prostate disease

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Urinary obstruction is a medical emergency that requires aggressive and immediate treatment. The bladder may be decompressed immediately by drainage with a needle through the skin (known as “cystocentesis”) to provide temporary relief and facilitate catheter placement. This is then followed up with more intensive therapy which includes placement of a urinary catheter to relieve the obstruction and clean out the bladder; intravenous fluid administration to “flush out” the kidneys and restore normal electrolyte balance; blood and urine testing to determine the cause of the obstruction and the extent of kidney damage; and X-rays to examine the bladder for stones or sediment. Proper treatment usually entails several days of hospitalization and supportive care.

Emergency stabilization may be required for very ill cats. This may entail medications to restore proper electrolyte values (such as glucose, insulin, potassium and calcium) and aggressive fluid therapy. Some cats may require ECG monitoring or repeated blood testing.

While in hospital, a cat with urinary obstruction is kept catheterized and the urine production monitored closely. Pain medication is used to control any discomfort, often using a combination of opioids, anti-inflammatories, and even epidurals. Anti-spasmodic medication is crucial to relax the urethra and allow passage of stones. These medications may include prazosin (a urethral dilator), benzodiazapines such as midazolam (which relax urethral muscles) and anti-inflammatories (which should only be used in cats with normal kidney function).

X-Rays of the bladder and urethra should be taken to check for the presence of stones that may require surgical removal. Stones should be analyzed at a laboratory to determine type and composition.

One type of medication called “glycosaminoglycans” is sometimes used to restore the normal mucous barrier to the insides wall of the bladder. These may be given by injection or directly instilled into the bladder.

The most critical periods for a cat with lower urinary obstruction are the initial stabilization (until electrolytes and kidney values are normalized) and the first 24 hours after catheter removal. After the urinary catheter is removed, monitoring for re-obstruction is critical. Continuing intensive medical management in this time period is very important.

Cats are often started on a “dissolution diet” during the de-obstruction process. These foods are formulated to dissolve stones and crystals and prevent the formation of new ones. Affected animals are generally kept on these diets for several months to ensure normal urine is being produced, prior to considering transition to a maintenance type diet. Some cats will need to stay on urinary diets life-long.

“Perineal Urethrostomy” is a salvage surgical procedure intended to relieve intractable obstruction and prevent recurrence of urinary blockage. This surgery entails removal of the penis and penile urethra, with widening of the remaining tissue to prevent re-obstruction. This effectively changes a male cat’s urologic conformation to a more female structure. While urethrostomy is sometimes the only option (especially for large, immobile stones), is a last resort for a blocked cat- it should not be performed until every other option has been exhausted, including intensive medical management, proper diet change, environmental enrichment, and catheterization. Owners considering this procedure must be made aware that cats commonly have post-surgical complications- even years after surgery they may experience incontinence, infections, inflammation, and

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potentially re-obstruction. While this surgery is a valid option for some cats, owners must be aware that it is a last resort and not to be undertaken lightly.

Proper follow-up care is essential in cats with lower urinary obstruction. This includes feeding a high quality urinary-specific diet, reducing environmental stress, and ensuring immediate action is taken during any signs of reoccurrence. Increasing water intake is essential; this may entail use of a canned diet, moistening food and adding large bowls and water fountains. For more information on the long term post-obstructive management of lower urinary disease, please see the handout on “Non Obstructive Feline Lower Urinary Disease”.

## For more information

American Association of Feline Practitioners

<http://www.catvets.com/cat-owners/disease-and-conditions/flutd>

Cornell Feline Health Center

[http://www.vet.cornell.edu/fhc/Health\\_Information/brochure\\_urinary.cfm](http://www.vet.cornell.edu/fhc/Health_Information/brochure_urinary.cfm)

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