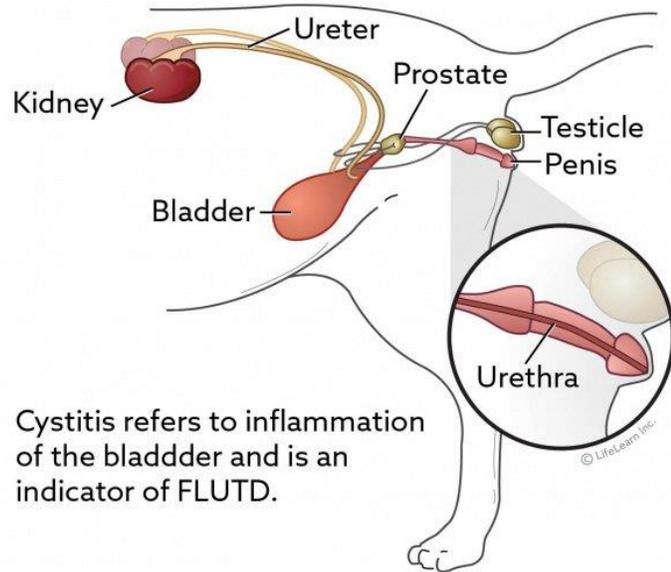


## What is cystitis?

Cystitis is a general term referring to inflammation in the urinary bladder. The term cystitis does not imply a specific underlying cause.

In cats, diseases of the lower urinary tract (bladder and urethra) are often grouped under the term feline lower urinary tract disease (FLUTD). This is because it can be challenging to distinguish between the various diseases of the bladder and urethra, and many diseases will affect the entire lower urinary tract. If all the known causes of the disease have been eliminated, the condition is called Feline Idiopathic Lower Urinary Tract Disease (iFLUTD), Pandora Syndrome, or Feline Idiopathic Cystitis. Idiopathic is a term that means the exact cause is unknown (see handout "Feline Idiopathic Cystitis").



## What are the signs of FLUTD?

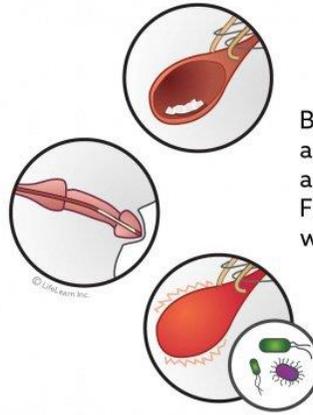
Typical signs in cats with FLUTD are those of inflammation and irritation of the lower urinary tract. The common clinical signs are:

- Increased frequency of urination called **pollakiuria**
- Difficulty in urinating or **dysuria**. Affected cats often spend a long time straining in the litter box while passing only small quantities of urine. Some cat owners confuse this with constipation or difficulty passing feces.
- The presence of bloody urine called **hematuria**.
- Foul smelling or cloudy urine.
- Urinating in unusual places.
- Excessive grooming or licking of the genital region..
- **Complete urinary tract obstruction** resulting in the inability to urinate. These cats usually strain to urinate persistently without producing any urine.

With a urinary tract obstruction, it is important to seek immediate veterinary care because blockage to the flow of urine can be a life-threatening complication if untreated.

## What causes FLUTD?

There are a vast number of potential causes of FLUTD; as previously mentioned, some cats experience severe inflammation of the bladder and/or urethra without an identifiable cause. Idiopathic FLUTD, or feline idiopathic cystitis accounts for about half of all cases. These idiopathic cases must be differentiated from other potential causes so that appropriate treatment can be given. Some of the potential causes of FLUTD are listed below:



Bladder stones, urethral plugs and bladder bacterial infections are three potential causes of FLUTD that your veterinarian will investigate.

- Urinary calculi or bladder stones (approximately 20% of all cases in cats under age 10).
- Bacterial infections (primary bacterial infections are rare in cats, although secondary infections can occur as complicating factors) are more common in cats over 10 years of age. Many older cats will have both bladder stones and a bacterial infection present.
- Neoplasia - bladder or lower urinary tract tumor.
- Anatomical abnormalities - especially in younger cats with chronic or persistent urinary tract issues.
- Urethral plugs - blockage of urethra with a mixture of crystals or small calculi/stones and inflammatory material.

## How is FLUTD diagnosed?

The initial diagnosis of FLUTD is based on the identification of signs of lower urinary tract inflammation. The clinical signs displayed by the cat are often characteristic of FLUTD. A urinalysis will confirm the presence of inflammation or infection.

Initially, a cat with uncomplicated FLUTD may be treated symptomatically with antibiotics or dietary modification. However, if the symptoms do not respond to this treatment or if there is recurrence of the clinical signs, additional diagnostic tests may be required to identify the underlying cause of the FLUTD.

## What further tests are required to diagnose the cause of FLUTD?

"When clinical signs are persistent or recurrent, a number of tests may be required to differentiate idiopathic FLUTD from the other known causes of urinary tract inflammation."

When clinical signs are persistent or recurrent, a number of tests may be required to differentiate idiopathic FLUTD from the other known causes of urinary tract inflammation. These diagnostic tests include:

- Laboratory analysis of a urine sample.
- Bacterial culture of a urine sample.
- Blood samples to look for other evidence of urinary tract disease or other systemic disease such as kidney disease.
- Radiographs (X-rays) and/or ultrasound examination of the bladder and urethra.

### **What is the treatment for FLUTD?**

This depends on the underlying cause. For example:

- Bacterial infections of the lower urinary tract usually respond well to antibiotic therapy. See handout "Urinary Tract Infections (UTIs) in Cats" for further information.
- If a cat develops a blocked urethra, emergency treatment is required to remove the blockage. Usually the cat will be given a short-acting general anesthetic and the urethra will be flushed or catheterized. Urethral obstruction occurs almost exclusively in male cats. Other treatment options may be recommended based on your cat's specific blockage.
- If bladder stones or **uroliths** are present, they will have to be removed. Depending on their type, they may be able to be dissolved by using a special diet or dietary additive, or they may require surgical removal. In some cases, this can be determined by the results of a urinalysis. See handout "Bladder Stones in Cats" for further information.

"Treatment has to be tailored to the individual cat."

There is no universal treatment for FLUTD. Each case has to be investigated to determine the underlying cause, and then the treatment has to be tailored to the individual cat. Sometimes despite appropriate tests and treatment, clinical signs may still recur, requiring further therapy and diagnostic testing.

## **How can FLUTD be prevented?**

It is impossible to completely prevent diseases of the lower urinary tract from occurring. However, FLUTD is more common in cats that have low water consumption and in cats that are inactive and obese. All these factors may relate, at least in part, to the frequency with which a cat urinates. Weight control and encouraging exercise and water consumption may be of some help in preventing FLUTD.



If urinary calculi or crystals caused the symptoms of FLUTD, the feeding of special diets may help prevent recurrence.