



# Feline lower urinary tract disease

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**Feline lower urinary tract disease (FLUTD)** is a term that is used to cover many problems of the [feline urinary tract](#), including [stones](#) and [cystitis](#). The term **feline urologic syndrome (FUS)** is an older term which is still sometimes used for this condition. The condition can lead to **plugged penis syndrome** also known as **blocked cat syndrome**. It is a common disease in adult cats, though it can strike in young cats too. It may present as any of a variety of urinary tract problems, and can lead to a complete blockage of the urinary system, which if left untreated is fatal. FLUTD is not a specific diagnosis in and of itself, rather, it represents an array of problems within one body system.

FLUTD affects cats of both sexes, but tends to be more dangerous in males because they are more susceptible to blockages due to their longer, narrower urethrae. Urinary tract disorders have a high rate of recurrence, and some cats seem to be more susceptible to urinary problems than others.

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## Symptoms

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Symptoms of the disease include prolonged squatting and straining during attempts to urinate, frequent trips to the [litterbox](#) or a reluctance to leave the area, small amounts of urine voided in each attempt, blood in the urine, howling, crying, or other vocalizations. Male cats may suffer complete blockage of the urethra, leading to painful bladder distension as the organ fills with urine. Kidney failure and [uremia](#) will follow within hours. A male cat may protrude its [penis](#). The cat may seek seclusion, stop eating and drinking, begin to vomit, and become lethargic and eventually comatose as toxins accumulate in the bloodstream. This is a veterinary emergency which will lead to death if not treated. A cat that is failing to urinate properly should see a vet immediately.

## Causes

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Any condition which causes inflammation of the urinary bladder or constriction of the urethra can cause this problem. These conditions include but are not limited to:

### The most common substances causing mechanical blockage of the urethra

- [struvite](#) crystals (magnesium ammonium phosphate precipitates)
- [calcium oxalate](#) crystals

### Other causes

- trauma
- congenital malformation of the urinary tract
- kidney or [bladder stones](#) of struvite or other minerals
- plugs of mucus or blood cells
- neurological problems
- dehydration
- obesity
- bacterial infection
- tumor
- intentional urinary retention - a common behavior seen in cats not given a suitable place to void (e.g. no litterbox or dirty litterbox)

The disorder may be caused by a combination of these factors. For example, a diet of dry food which is high in [magnesium](#) or other minerals and high in [pH](#), combined with inadequate intake of water may lead to favorable conditions for precipitating buildup in the lower urinary tract. However, these factors affect individual cats differently. Most cats tolerate normal dry diets with no urinary problems.

## Treatment

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A blocked urethra requires immediate veterinary attention. The plug must be removed from the penis and the bladder drained. Gentle mechanical manipulation of the penis may dislodge the blockage, or a [catheter](#) might be used to drain the bladder. Intravenous fluids are given to treat uremia. Antibiotics and a special diet may be prescribed. Diets low in magnesium and urine acidifiers may be helpful. Cats susceptible to repeated attacks of this disorder may require surgery, such as the removal of the penis ([Urethrostomy](#)) to prevent its blockage.

Cats with [chronic](#) feline lower urinary tract disease caused by struvite crystals or oxalate crystals can be treated with a life-long diet of a prescription wet or dry food which minimizes the content of the building blocks of the crystals. These foods will be prescribed by vets if needed and will replace all other food to ensure a healthy urinary tract. Even after treatment, cats need to be checked regularly for urinary problems as the crystals can return.

## Further reading

[edit]

Carlson, Delbert G. & Giffin, James M. *Cat Owner's Home Veterinary Handbook*. New York: Howell Book House, 1995.

- FLUTD [from Veterinary Partner](#)
- Urolithiasis: Overview [& Feline Urolithiasis and FLUTD](#) at the Merck Veterinary Manual
- FLUTD Brochure [by the American Association of Feline Practitioners and the Cornell Feline Health Center](#)

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