

## FELINE CYSTITIS

### *What is cystitis?*

The term "cystitis" literally means inflammation of the urinary bladder. Although this term is rather general, there is a common form of cystitis that occurs in male and female cats. This disease is also known as Feline Urologic Syndrome (FUS) or Feline Lower Urinary Tract Disease (FLUTD). It affects the bladder (not the kidneys), resulting in the production of tiny crystals and blood urine. The cat often urinates much more frequently than normal, usually with the passage of only a few drops of urine. This is often confused with constipation. This disease will cause many cats to urinate in places other than the litter box, often on hard surfaces such as tile floors, countertops, sinks, and bathtubs. They should not be punished for doing so.

### *What are the causes?*

We are not completely sure of the cause of this problem. Bacterial infections are the most common cause of cystitis in dogs and humans, but most cats with cystitis do not have bacteria in their urine. Early neutering of male cats and feeding of dry cat food have been proposed as potential causes, but these have been disproved as initiating factors. It is true, however, that many dry foods may aggravate the problem after it begins. A herpes virus has been incriminated and someday may be proven to be the cause. Despite extensive research, the cause remains elusive.

### *What are the clinical signs?*

Most cats with cystitis exhibit blood in the urine and discomfort in urinating. The discomfort is usually mild but can become much worse if it is not treated. Female cats may develop ½ inch diameter stones in the bladder that must usually be surgically removed. Male cats may develop enough crystals in the urethra (the narrow tube carrying urine out of the body) to cause an obstruction. This obstruction prevents elimination of urine from the bladder. If the obstruction is not relieved within 48 hours, most cats will die from kidney failure and the retention of toxins that were not removed by the kidneys. Because the urethra is relatively larger in the female cat, the emergency posed by complete obstruction is almost always limited to male cats.

### *How is it treated?*

Each cat with cystitis is treated according to the changes in the urine (pH, crystals, blood, etc.), the type of crystals present, the presenting clinical signs (straining, increased frequency, etc.), and the presence or absence of a bladder stone or urethral obstruction.

If neither a bladder stone nor urethral obstruction is present, proper medication will generally relieve the discomfort. A urinalysis is necessary to determine the proper medication. A special diet, explained below, will help to dissolve some of the crystals in the urine and hasten recovery.

If the cat has an obstruction of the urethra, a catheter is passed into the bladder while he is under a short-acting anesthetic. The catheter is frequently left in place for about 24 hours. The cat is discharged from the hospital when it appears unlikely that obstruction will reoccur, usually 1-2 days later. If he is experiencing kidney failure and toxemia, intravenous fluids and additional hospitalization are needed.

### *How long will treatment take?*

Following initial treatment, it may be necessary for you to return your cat in 7-10 days for a recheck of its urine. This is very important because some cats will appear to feel much better, but the urine is still bloody or contains crystals. If medication is stopped based on how the cat appears to feel, treatment may be terminated prematurely and a relapse will probably occur.

### ***Is it likely to happen again?***

Many cats have a recurrence of cystitis. This is one reason that a virus is suspected as the cause. It is also the reason that a proper diet should be fed in the future.

### ***Can it be prevented?***

Although we do not believe that any type of commercial cat food causes cystitis, we know that certain things can be done to the diet to minimize a recurrence. However, dietary prevention depends upon what type of crystals are present.

If struvite crystals are present, they can be dissolved in acidic urine. Therefore, diets that cause urinary acidification are recommended for these cats. However, if your cat's crystals are not struvite, acidification may actually make recurrence more likely so a non-acidified diet is the appropriate one. Therefore, if at all possible, the crystals in the urine should be analyzed for their composition. This is the most important step in preventing future problems.

### ***Can urethral obstructions have complications?***

Yes, for some cats. The most common complication of urethral obstruction is bladder atony. Atony means that the muscles of the bladder wall are unable to contract to push out urine. This occurs when they are stretched to an extreme degree. Not all cats with obstructions develop atony; in fact, most do not. However, if this occurs, longer hospitalization is necessary. The muscles will nearly always rebound and become functional again, but this may take several days to as long as a week.

Another complication that occurs occasionally is kidney damage. Although feline cystitis does not directly affect the kidneys, if the bladder becomes extremely enlarged, urine may backup into the kidneys and create enough pressure to temporarily or permanently damage them. If this occurs, prolonged hospitalization will be necessary to treat the kidney damage. However, with aggressive treatment, most cats will recover their normal kidney function.

It should be noted that both complications, bladder atony and kidney damage, are the direct result of the bladder becoming extremely enlarged. Both problems may be prevented by prompt recognition of the problem and prompt medical care.

### ***What can be done to prevent another urethral obstruction?***

Male cats that have more than one urethral obstruction can benefit from a surgical procedure called a perineal urethrostomy. The purpose of this is to remove the narrow part of the urethra that is the typical site of the obstruction. Although this prevents future obstructions, some of these cats will still have an occasional recurrence of cystitis, though usually not as severe.

This surgical procedure is also performed if the urethral obstruction is so severe that normal urine flow cannot be reestablished or if there are permanent strictures that develop in the urethra.

Surgically changing the cat's urethra makes him more prone to bacterial infections in the bladder and bladder stones. Therefore, this surgery is only recommended if other means of prevention or treatment are not successful. However, the complications associated with the surgery are not life-threatening like urethral obstructions, so the surgery generally offers a significant benefit for the cat that really needs it.