

## What is FLUTD?

FLUTD stands for **Feline Lower Urinary Tract Disease**. It is not a single condition, but a group of conditions, many of which cause inflammation of the lower urinary tract. The lower urinary tract consists of the bladder and the urethra (the tube that passes from the bladder to the outside).

The two most common presenting signs of FLUTD are the appearance of blood in the urine (called haematuria) and straining to pass urine. Your cat may visit the litter tray more often, show signs that urinating is painful and may lick under its tail excessively. In rare cases a cat may be totally unable to pass urine. This is more common an occurrence in male cats than in female cats because the male urethra is much narrower and therefore will block more easily. **This is an *emergency situation* and you should seek help from us immediately. We offer a 24 hour emergency service via our normal telephone number.**

There are many documented causes of FLUTD. These include:

- Bladder crystals and stones (called urolithiasis).
- Bacterial infection.
- Neoplasia (tumours of the urinary tract).
- Trauma (especially due to road traffic accidents). If severe, this may cause bladder rupture.
- Anatomical defects of the urinary tract.
- Damage to the nerve supply to the bladder.
- Other rare causes include viral infection, fungal infection and yeast infection.
- Stress

In up to 50% of cases it is not possible to discover an underlying cause. These cases are called idiopathic FLUTD. Since there are many possible causes of FLUTD, there are also many possible methods of treatment. The key to successful treatment is the correct diagnosis.

### HOW IS FLUTD DIAGNOSED IN CATS?

A provisional diagnosis can often be made from your cat's history and presenting signs including:

- Your cat's age, weight and lifestyle
- The breed of your cat (Persian, Burmese and Himalayan cats are more prone to bladder crystals and stones)
- The appearance of the urine.
- Whether the urine is acid or alkaline (this is called the urinary pH).

## **Urine Samples**

We will always want to collect a urine sample to check for the presence of crystals and also to see if there is bacterial infection in the urine, since these are two of the most common causes of FLUTD.

You may be asked to bring a fresh urine sample to the surgery when you go for your appointment. We suggest that you use a litter tray that has been thoroughly washed, and the normal cat litter replaced with washed aquarium gravel, so that you can pour off the sample. Try to collect the sample just before your appointment, or arrange to drop the sample in at the surgery at a different time. Do not put it in the fridge as this can affect the appearance of any crystals that may be present.

If you are unable to collect a urine sample, we can obtain one by putting a needle into the bladder (called cystocentesis). This sounds painful but most cats do not mind it at all, and at most, only light sedation is required.

We will perform some or all of the following tests:

- Checking to see if it contains blood.
- The urinary pH is checked. This is a measure of how acid or alkaline the urine is.
- The urine sample may be examined under the microscope for the presence of both crystals and bacteria. The different crystals have different appearances and so give a clue as to the type of FLUTD your cat has developed.
- The urine sample may be sent away to a laboratory to be cultured for bacterial infection. It normally takes about 5 days to get the results back. The laboratory often advises which antibiotics will be most suitable if any bacteria are cultured.

In many cases we may need to carry out further diagnostic tests, including:

- X-rays (some stones show up very well on X-ray, but some types do not).
- An ultrasound examination of the bladder
- Blood tests (one type of bladder stone forms in cats with liver disease)
- Analysis of any stones passed in the urine or removed during surgery.

## **Feline bladder stones and crystals**

Up to 50% of cases of FLUTD are caused by bladder crystals and stones. The two most common types of bladder stones found in cats are struvite (also called magnesium ammonium phosphate) and calcium oxalate. Other types of bladder stones (cystine and ammonium urate) are much less common.

In cats, it is very common for crystals to develop alone, without stones forming. It is also important to realise that the appearance of a few struvite crystals in the urine, without any clinical signs associated with their presence, is quite normal.

The formation of crystals and stones requires saturation of the urine with the constituent minerals of that particular stone type. These mineral building blocks then require sufficient time in the urine to clump together and produce the crystals and stones. The chances of this happening are much greater in cats that do not urinate often enough. This can be because they are naturally sedentary, spending long periods of the day sleeping, or because they are overweight, since this also reduces activity level.

Many other factors also influence how often your cat passes urine and these include:

- How much your cat drinks (fresh clean drinking water should always be available for your cat. In the summer, make sure that your cat has at least one watering point outside, as well as inside, the house).
- The weather (FLUTD cases occur more frequently in the winter when cats go outside less often).
- Your cat may only want to urinate in a clean litter tray and regular cleaning of the tray is beneficial.
- Stress can play a part in reducing the frequency of urination. For example, if your cat is timid and goes upstairs to hide when you have visitors, it may be unwilling to urinate until the coast is clear.

## **HOW IS FLUTD TREATED?**

There are several different treatment options available for cats with FLUTD. The type of treatment will depend on the main underlying cause of your cat's bladder disease.

Treatment often involves:

- Immediate relief of obstruction (if occurring) either by surgery, or by pushing the stone back up the bladder (called retropulsion). This is done using a catheter, with the cat under sedation or general anaesthetic.
- Surgical removal of the stones if they cannot be dissolved.
- Dissolution of the stones, if possible, using a combination of drugs and special food.
- Control of any bacterial infection with the use of antibiotics.

### **Surgery**

This involves a general anaesthetic and an operation to open up the bladder (called a cystotomy). In some cases, surgery may cure the bladder disease (eg, repair of an anatomical defect, removal of a bladder tumour, repair of a ruptured bladder). In the case of calcium oxalate bladder stones surgery is the only form of treatment, since they cannot be dissolved.

## Dietary Management

Dietary control is vitally important in the management of FLUTD, especially in those cases caused by urolithiasis. Dietary management is useful both in the short term treatment of FLUTD, and in the long-term to prevent recurrence of the problem.

Bladder crystals and stones can actually be dissolved using a combination of drugs (including antibiotics if a bacterial infection is present) and a special food. We recommend Purina UM. By feeding this very special food, the conditions in the bladder are altered to such an extent that the struvite becomes soluble and dissolves. This is achieved by restricting the cat's intake of the building blocks of the stone.

If your cat is overweight we may recommend Purina OM diet (obesity management). This food is formulated to help prevent the recurrence of struvite FLUTD whilst at the same time achieving weight reduction. This is important because obesity is a major predisposing factor in the development of FLUTD.

Remember, dietary management plays a *very important role* in both the treatment and prevention of recurrence of FLUTD. All Purina Veterinary Diet products are very palatable and are readily accepted by most cats. However, some cats are notoriously difficult when it comes to changing their food.

You may find the following tips useful if your cat resists the change:

- Warming canned food to body temperature (but not above) before feeding. Many owners keep their cat's canned food in the refrigerator but, since cats are naturally hunters, they prefer their food at body temperature.
- Hand feeding the new food for a few days.
- Mixing a small amount of the new food in with your cat's usual brand and slowly increasing the amount of the new food over a period of several days to one week.

It is definitely worth persevering with our instructions regarding feeding your cat but, if your cat refuses to eat for more than 48 hours, you should call us for advice.

If your cat regularly goes outside and visits neighbours for additional treats and titbits, then it may be helpful to let all your neighbours know that your cat is on a special Prescription Diet food, and that feeding him other things could be harmful. Most people will stop feeding your cat when they know this (however appealing he is!).

Remember that when your cat is prescribed a special food then you should feed this, and this alone, with water to drink. Avoid giving any treats and titbits, especially table scraps and vitamin supplements. It is also important that you do not give milk to drink, as this is a source of calcium and phosphorus.

You may be concerned about the cost of long-term dietary management. All the products are available as both canned and dry formulations. Dry versions are more economical to feed.

You may be concerned that you will buy these special foods and your cat will not eat them. Do not worry, because all the prescription diets that we supply come with a 100% Satisfaction Guarantee. If you do need to return a product under this 100% guarantee, please return it to us for a full credit.

### **Drug Treatments**

If we discover a bacterial infection in the urine we will prescribe antibiotics. It is very important that you give antibiotics regularly and complete the course. We may be able to provide a liquid form of antibiotic if you find giving tablets to your cat very difficult. If your cat has both bacterial infection and stones, then it is vital that antibiotics are continued throughout the period that it takes to dissolve the stones. As the various layers of the stone are dissolved further bacteria, which had become trapped within these layers, are freed into the urine. It is common to continue both the antibiotics for up to 4 weeks after all the crystals and stones have disappeared.

If we consider that stress is a major cause of your cat's FLUTD we may prescribe drugs that can help reduce stress and anxiety. These 'mood-altering' drugs are a fairly new form of treatment for FLUTD, but results can be very dramatic in certain individuals.

### **Environmental Management**

You can change various factors in your cat's environment to help reduce the recurrence of FLUTD.

Such factors include:

- The type of cat litter you use. Research has shown that certain cats prefer certain types of cat litter. Experimenting with different litter types until you find one that your cat readily accepts can be beneficial. Many cats seem to prefer a more natural feeling cat litter, such as soil.
- The frequency with which you clean out the litter tray. This can be very important in multi-cat households where several cats are using one litter tray. It has been shown that some cats will refuse to urinate in a dirty litter tray and so more regular cleaning, or the use of a self-cleaning litter tray, may be helpful.
- The number of litter trays available and their location. Again, this seems to be more important where several cats live together. By providing more litter space, and even by putting trays in different locations, we can encourage cats to urinate more frequently. Some cats prefer it if their litter tray is in a more private location.
- Reducing stress. We cannot stop people coming to visit us but, if this seems to be stressing your cat, allowing a means of escape can be helpful. Cats

often feel happier if they can get above what is upsetting them. Allow your cat upstairs when visitors come, or provide a climbing toy so he can sit up high and look down. This is especially important if your visitor brings a dog or small child and your cat is not used to these 'intruders'. The presence of a cat-flap can also be a source of stress for certain cats. This may be because a neighbouring 'bully' cat is always waiting outside the flap. If your cat seems fearful of using the cat-flap it may be worth keeping it closed and allowing your cat another way of getting outside (such as going out through a window from which the cat can have a safe vantage point).

### HELPFUL TIPS TO INCREASE YOUR CAT'S WATER INTAKE

In addition to following correct dietary management, one of the most important ways to help reduce the risk of your cat having a recurrence of this type of urinary problem is to increase water intake. This is because the more water your cat drinks, the more urine will be produced. This encourages more frequent urination and reduces the time the urine gathers in the bladder. Less time is therefore available for bladder crystals and stones to form. The urine is also more dilute and so the chances of the building blocks of bladder crystals and stones meeting each other is reduced.

The following ideas may be used to encourage drinking:

- Add water to the food, whether it is canned or dry. Start with a small amount, and increase as your cat's acceptance permits. If food is normally available throughout the day, changing to feeding at least some of the daily ration in 2 meals a day, before you begin adding water to the food, will help your cat to accept the water more readily.
- Place water next to the food, and at several extra places in areas to which your cat has access, eg, an extra bowl of water upstairs, in the porch, downstairs, outside
- Keep the water in the bowls very fresh, ie, change regularly.
- Some cats like shallow water bowls and water bowls filled right to the brim, ie, with a meniscus, other cats prefer to reach down into a water container. Experiment to see which your cat likes the best.
- Offer filtered, distilled or bottled water. Some cats prefer it.
- Try a pet water fountain, obtainable from pet shops and through magazines.
- Leave some water in the bottom of the sink, bath or shower.
- Put a shallow bowl under a slowly dripping tap to allow a drink of fresh water whenever the cat wants one. *Please ensure the bowl will not act like a plug otherwise your sink might overflow!*
- Make flavoured ice cubes! Add some water to a small amount of the appropriate food and simmer gently in a pan for approximately 10 minutes. Then strain the contents through a sieve. Pour the strained liquid ('broth') into an ice cube tray, and freeze. Add a 'broth' cube to flavour the water in the cat's bowl.

If you find other methods that work well, please let us know. We will then add them to this list.

***FLUTD is a common and troublesome condition that can be very painful for your cat, and if it causes an obstruction, acutely life threatening. There is much that we can do, working together to try and control the problem. Please do keep in contact with us so we can monitor the progress of your cat, and do not divert from the treatment we recommend without discussing it with us first.***